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Editor-in-Chief
Monthly Labor Review
Bureau of Labor Statistics
Washington, DC 20212
Telephone: (202) 606–5900
E-mail: mlr@bls.gov

Inquiries on subscriptions and circulation, including address changes, should be sent to:
Superintendent of Documents
Government Printing Office
Washington, DC 20402
Telephone: (202) 512–1800

Subscription price per year—$27 domestic; $33.75 foreign. Single copy—$8.50 domestic; $10.63 foreign. Make checks payable to the Superintendent of Documents.

Subscription prices and distribution policies for the *Monthly Labor Review* (ISSN 0098–1818) and other government publications are set by the Government Printing Office, an agency of the U.S. Congress.

The Secretary of Labor has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Periodicals postage paid at Washington, DC, and at additional mailing addresses.

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Information is available to sensory impaired individuals upon request:
Voice phone: (202) 606–7828
Federal Relay Service: 1–800–877–8339.

POSTMASTER: Send address changes to *Monthly Labor Review*, U.S. Government Printing Office, Washington, DC 20402-0001.

Cover designed by Melvin B. Moxley

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The July *Review*

The Producer Price Index article by William D. Thomas and Joseph Kowal is the last of the annual program wrap-ups for 1998—articles on employment and consumer prices appeared in February and April, respectively. In 1998, the overall Producer Price Index for Finished Goods showed no change. As is often the case, this apparent inaction at the topside masked important changes in the details. In this case, the price of finished energy goods fell even more rapidly than in the previous year, offsetting a modest uptick in the price index for consumer foods and an increase in the prices of goods other than food and energy. At earlier stages of processing, prices fell more in 1998 than they had in 1997 in both the intermediate and crude goods stages.

Even in today's strong labor market, workers with strong ties to a job and an employer can still be displaced. Steven Hipple analyzed the most recent data from the displaced worker supplement to the Current Population Survey and found that, even with today's low unemployment rates and high rates of job creation, more than 2 million adults with 3 years or more of tenure lost their jobs to plant closings, abolition of shifts, and/or insufficient demand at their workplace between 1995 and 1996. While this represents a relatively low rate of displacement—2.9 percent in 1995–96 versus 3.3 percent in 1993–94—it is still a matter of obvious concern.

Per capita income may not be a complete measure of economic well being, say Bart van Ark and Robert H. McGuckin, but it is an important one and is strongly correlated with many others. They then compare the decompositions of per capita income into productivity, labor force participation, and annual hours worked components across a number of countries. In comparisons with the European Union and Japan in 1997, the United States wins out over both in terms of productivity and per capita income. Among four newly industrializing Asian economies—South Korea, Taiwan, Hong Kong, and Singapore—labor productivity is about 43 percent of that of the United States, but per capita income is nearly two-thirds the U.S. level. The difference is almost entirely explained by higher working hours in those countries—South Korean workers, for example, put in nearly a third again as many hours in a year than their American counterparts.

More women go to college

Among 1998 high school graduates, more women than men enrolled in college last fall. As of October, 938,000 young women who graduated from high school in 1998 were in college while only 906,000 young men were enrolled.

There were more male high school graduates in 1998 than female: 1.5 million men compared with 1.4 million women. However, the college enrollment rate was markedly higher for the young women—69.1 percent were enrolled in college while only 62.4 percent of the young men were enrolled. Additional information is available from news release USDL 99–175, "College Enrollment and Work Activity of 1998 High School Graduates."

Pay and benefits

Health insurance, paid leave, Social Security, and other benefits together accounted for close to a third of the compensation received by manufacturing employees in March 1999. Legally required benefits such as Social Security were the largest of all the benefits.

Overall, 31.2 percent of manufacturing compensation in March 1999 was in the form of benefits. Social Security and other legally required benefits represented 8.5 percent of total compensation. Paid leave accounted for 7.6 percent of compensation in manufacturing and health insurance for 6.9 percent.

In contrast, workers in industries outside of manufacturing received only about a quarter of their compensation in benefits. In March 1999, benefits comprised 25.9 percent of nonmanufacturing compensation. The percent of compensation from legally required benefits was slightly higher in nonmanufacturing than in manufacturing, at 8.7 percent. For each of the other benefits, the share of total compensation was lower for nonmanufacturing workers. Additional information is available from news release USDL 99–183, "Employer Costs for Employee Compensation, March 1999."

Wages in metropolitan areas

On June 24, 1999, the Bureau of Labor Statistics released metropolitan area data from the Occupational Employment Statistics survey on its Internet site for the first time. These data, which provide detailed occupational employment and wage estimates for 334 metropolitan areas, had not been previously published elsewhere.

The metropolitan area employment and wage estimates can be found at

http://stats.bls.gov/oes/msa/oessrch1.htm

Additional information about the employment and wage estimates also can be obtained by calling 202–606–6569.

News releases discussed above are available at

http://stats.bls.gov/newsrel.htm

Producer price highlights, 1998

The crude and intermediate stage-of-processing components of the Producer Price Index declined in 1998; however, the finished goods index showed no change, as falling prices for energy goods offset rising prices for consumer goods other than foods and energy

William D. Thomas
and
Joseph Kowal

The Producer Price Index (PPI) for Finished Goods showed no change in 1998, after falling 1.2 percent in 1997 and rising 2.8 percent in 1996. The 1997–98 period marked the first time since 1947—the earliest year for which data are available—that this index failed to show an increase over a 2-year span. Within finished goods, prices for finished goods other than foods and energy—a category that includes both consumer goods and capital equipment—increased 2.5 percent in 1998, after showing no change a year earlier. The index for consumer foods rose 0.1 percent in 1998, after decreasing 0.8 percent in 1997. However, the index for finished energy goods fell 11.7 percent, after declining 6.4 percent over the previous 12 months. (See table 1.)

At the earlier stages of processing, the PPI for Intermediate Materials, Supplies, and Components fell 3.3 percent, after declining 0.8 percent a year earlier. This index measures price movements for goods such as flour, steel, lumber, industrial chemicals, diesel fuel, and paper boxes and containers. Similarly, prices for crude goods for further processing also fell in 1998, declining 16.7 percent, after falling 11.3 percent in 1997. Crude goods include commodities such as wheat, slaughter cattle, crude petroleum, natural gas, scrap metals, logs and timber, and cotton. Prices for energy- and food-related materials at both the intermediate and crude stages of processing fell more in 1998 than in 1997. Excluding foods and energy, the intermediate index turned down in 1998, after moving up 0.3 percent in 1997. For crude nonfood materials less energy, a 16.0-percent decline in 1998 followed no change in the previous year.

Table 2 shows that in each of the stage-of-processing categories, the ratio of advancing to declining indexes fell over the 1997–98 period.[1] For example, although the index for finished goods was unchanged in 1998, the ratio of advancing to declining indexes within finished goods fell slightly. This shift was due primarily to the component index, finished goods other than foods and energy, where the percentage of indexes in decline rose in 1998. This occurred in spite of the fact that this index advanced 2.5 percent for the year, after showing no change in 1997.

A detailed look at the 1998 commodity data reveals that much of the rise in prices for finished goods other than foods and energy is linked to one commodity area—cigarettes. In fact, the 49.4-percent increase in cigarette prices during 1998 accounted for roughly three-fifths of the rise in the index for finished goods less foods and energy. If cigarettes were excluded from total finished goods, that index would have declined roughly 1.2 percent in 1998, the same rate as in 1997. Within finished energy goods, only 1 of the 12 commodity components advanced—the index for lubricating grease. In 1998, the ratio of advancing to declining indexes within finished consumer foods rose. During the same period, prices increased at a 0.1-percent annual rate, after falling at a 0.8-percent rate the

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Table 1. Annual percent changes for major categories of the Producer Price Index by stage of processing, 1994–98

Index	1994	1995	1996	1997	1998
Finished goods	1.7	2.3	2.8	−1.2	0.0
Foods	1.1	1.9	3.4	−.8	.1
Energy	3.5	1.1	11.7	−6.4	−11.7
Other	1.6	2.6	.6	.0	2.5
Intermediate materials, supplies, and components	4.4	3.3	.7	−.8	−3.3
Foods and feeds	−4.5	10.3	2.1	−1.7	−7.3
Energy	2.9	1.1	11.2	−7.0	−12.1
Other	5.2	3.2	−.9	.3	−1.6
Crude materials for further processing	−.5	5.5	14.7	−11.3	−16.7
Foodstuffs and feedstuffs	−9.4	12.9	−1.0	−4.0	−11.0
Energy	−.1	3.7	51.2	−23.1	−23.8
Other	17.3	−4.2	−5.5	.0	−16.0

year before.

Within intermediate materials, the shift to a greater proportion of declining indexes as a percentage of all indexes was in lockstep with price movement. Each major stage-of-processing category within intermediate materials—foods, energy, and core intermediate materials—showed both a decelerating rate of change and declining prices for 1998. While finished goods showed no change and intermediate materials displayed downward price movement in 1998, the number of advancing indexes still outweighed the number of declining indexes. By contrast, within crude goods, this ratio turned solidly in favor of decliners. The price declines observed in overall crude goods and its components were generally sweeping in nature, with declines for nearly two-thirds of the indexes in this stage-of-processing category.

Real gross domestic product (GDP) increased 3.9 percent in 1998, following growth rates of 3.9 percent in 1997 and 3.4 percent in 1996. As in recent years, business investment in equipment bolstered GDP growth in 1998, while weak exports were offset by stepped-up, already robust, household spending on goods, services, and housing. The unemployment rate for much of the year hovered around 4.5 percent, its lowest rate in 29 years. (For most of 1997, the unemployment rate lingered at or near 5.0 percent.) Prices for exports leaving the United States fell 3.5 percent in 1998, while import prices declined 6.4 percent for the same period.[2] At the same time, consumer-level inflation, as measured by the Consumer Price Index, was 1.6 percent in 1998, just slightly less than the previous year's rate of 1.7 percent, the lowest rate observed since 1986.

Finished goods other than foods and energy

The index for finished goods other than foods and energy advanced 2.5 percent in 1998, after showing no change in 1997. Much of the upturn was due to an acceleration in price increases for cigarettes and prescription drugs. The stage-of-processing component index for finished consumer goods other than foods and energy increased 4.2 percent in 1998, after rising 0.3 percent a year earlier. Prices for capital equipment showed no change, following a 0.6-percent decline in 1997. (See table 3.)

Among finished consumer goods other than foods and energy, 1998 prices rose more rapidly for cigarettes, prescription drugs, cosmetics and other toilet preparations, specialty cleaning products, wood household furniture, and mobile homes. After declining the previous year, prices increased for passenger cars, light motor trucks, malt beverages, lawn and garden equipment, and primary wet and dry storage batteries. Prices declined (although less than in the previous year) for major appliances, sanitary paper products, tires, and television receivers. By contrast, prices declined after rising the previous year for soaps and detergents, wines and brandy spirits, and photographic supplies. Price increases slowed for periodical circulation. As has been the case in recent years, prices for electronic computers fell substantially in 1998, 26.6 percent, following a 21.6-percent decline in 1997. Meanwhile, the index for computer peripheral equipment, which includes items such as printers, monitors, and optical scanning devices, also declined more rapidly in 1998.

The index for capital equipment showed no change in 1998, following a 0.6-percent decline a year earlier. Prices increased after falling for passenger cars, light motor trucks, air conditioning and refrigeration equipment, and fluid meters and counting devices. Price increases accelerated for engineering and scientific instruments, as well as for aircraft. Price decreases slowed for refrigerators and medical instruments and equipment. By contrast, the index for electronic computers and computer equipment fell more rapidly in 1998 than in 1997. Prices turned down after rising a year earlier for communication and related equipment, while the index for integrating and measuring instruments fell, after showing no change in 1997. Price increases slowed for agricultural machinery and equipment, service industry machinery and parts, process control instruments, and wood office furniture and store fixtures.

Tobacco products and alcohol. Prices for tobacco products rose rapidly in 1998, increasing by 41.3 percent, following an increase of 7.7 percent the previous year. Most of the acceleration was due to the index for cigarettes, which advanced 49.4 percent in 1998, following a 10.0-percent rise in 1997. In fact, the cigarette price hike influenced the overall PPI for Finished Goods more than any other single index. If it were excluded, the Finished Goods index would have declined at nearly the same rate as in 1997, 1.2 percent. Similarly, the 2.5-percent rise in finished goods other than foods

and energy is reduced by roughly three-fifths if cigarettes are excluded from the calculation.

Much of the advance in cigarette prices came with the release of December data, following the $206 billion settlement agreed to between the Nation's five largest cigarette manufacturers and attorneys-general from 46 States, the District of Columbia, and five U.S. territories. (Producers had reached settlements earlier with Mississippi, Florida, Texas, and Minnesota.) Settlement payments are to be made over the next 25 years. In addition to December's 30.7-percent increase in cigarette prices, four other noteworthy price hikes occurred in 1998, ranging in size from 2.1 percent to 4.2 percent. The cigar index advanced 8.8 percent in 1998. Over the last decade, cigar prices have consistently risen, leaving prices nearly double what they were 10 years ago.

The index for alcoholic beverages rose 1.5 percent in 1998, after falling 0.5 percent in the previous year. This upturn was driven solely by rising prices for malt beverages, which advanced at a 2.8-percent rate, following a 1.5-percent rate of decline in 1997. A stabilization in what had been declining rates of domestic beer consumption seems to have helped firm up prices. However, the indexes for wine and brandy and for distilled spirits fell in 1998, after showing increases a year earlier. Exports of wine and distilled spirits to the Far East also fell, while domestic consumption of hard liquor continued its downward trend.

Transportation equipment. The index for motor vehicles increased 0.9 percent in 1998, after moving down 2.7 percent in 1997. Prices rose 0.5 percent for passenger cars, 1.0 percent for light trucks, and 3.9 percent for heavy trucks. Motor vehicle sales were buoyant in 1998, as manufacturers sold roughly 15.6 million new cars and light trucks during the year, up 2.9 percent from the previous year. This was the second-highest sales-volume year on record, with 1986 being the all-time mark. However, a sizable portion of overall sales during early 1998 resulted from incentives and discounts instituted to move inventory. As a result, prices for passenger cars and light trucks fell noticeably during spring and summer. Prices, however, did rebound with the introduction of the new model-year vehicles in October. Cost cutting efforts continued in the passenger car and light motor truck markets, with manufacturers attempting to increase profits while holding costs and prices steady. During this period of highly competitive markets, global overcapacity, the prospect of lower sales, and weakness in Asian economies, automakers pursued mergers and joint ventures in hope of realizing manufacturing cost savings and economies-of-scale benefits.

The index for aircraft and aircraft equipment increased 1.1

Table 2. Advancing and declining Producer Price Indexes for selected stage-of-processing groupings, 1996–98

(Not seasonally adjusted)

Index	1996–97			1997–98		
	Advances	Declines	Unchanged	Advances	Declines	Unchanged
Number of indexes						
Finished goods	386	153	16	368	167	11
Consumer foods	38	43	0	47	31	0
Energy goods	3	10	0	1	11	0
Except food and energy	345	100	16	320	125	11
Intermediate goods	413	210	18	367	251	14
Foodstuffs and feedstuffs	23	32	0	24	28	0
Energy materials	7	12	1	1	17	0
Except food and energy	390	178	17	345	220	14
Crude goods	35	28	0	20	41	2
Foodstuffs and feedstuffs	15	15	0	11	18	0
Energy materials	1	2	0	0	3	0
Nonfood materials less energy	20	13	0	10	24	0
Percent						
Finished goods	69.5	27.6	2.9	67.4	30.6	2.0
Consumer foods	46.9	53.1	0	60.3	39.7	0
Energy goods	23.1	76.9	0	8.3	91.7	0
Except food and energy	74.8	21.7	3.5	70.2	27.4	2.4
Intermediate goods	64.4	32.8	2.8	58.1	39.7	2.2
Foodstuffs and feedstuffs	41.8	58.2	0	46.2	53.8	0
Energy materials	35.0	60.0	5.0	5.6	94.4	0
Except food and energy	66.7	30.4	2.9	59.6	38.0	2.4
Crude goods	55.6	44.4	0	31.7	65.1	3.2
Foodstuffs and feedstuffs	50.0	50.0	0	37.9	62.1	0
Energy materials	33.3	66.7	0	0	100.0	0
Nonfood materials less energy	60.6	39.4	0	29.4	70.6	0

NOTE: Calculations are based on 12-month change from December to December of indicated years.

Table 3. Annual percent changes in Producer Price Indexes for selected finished goods other than foods and energy, 1994–98

Index	1994	1995	1996	1997	1998
Finished goods other than foods and energy	1.6	2.6	0.6	0.0	2.5
Finished consumer goods less foods and energy	1.4	2.8	.8	.3	4.2
Passenger cars	2.1	1.7	−.8	−2.6	.5
Light trucks	3.3	1.5	.2	−3.6	1.0
Prescription drugs	3.1	4.2	2.0	3.6	20.9
Over-the-counter drugs	1.7	1.7	−1.7	.3	.0
Cigarettes	−.1	3.7	3.3	10.0	49.4
Books	5.4	6.5	3.2	3.3	4.1
Periodical circulation	3.6	4.8	2.0	4.0	3.4
Newspaper circulation	3.3	8.8	4.2	.1	1.1
Household furniture	2.7	2.7	1.4	1.1	1.9
Capital equipment	2.0	2.2	.4	−.6	.0
Heavy trucks	3.0	4.1	−4.5	.6	3.9
Truck trailers	7.7	2.2	−1.4	2.0	1.9
Metal-cutting machine tools	1.8	4.1	3.1	2.1	1.5
Metal-forming machine tools	3.5	2.2	2.6	3.2	1.8
Computers	−6.8	−12.7	−22.3	−21.6	−26.6
Agricultural machinery	2.7	4.7	1.4	1.4	.7
Construction machinery	2.0	2.5	1.8	1.9	1.7

percent in 1998, with prices rising in response to routine contract escalations due to cost increases for labor and materials. Demand for aircraft and parts was mixed, with ample domestic demand offset by weakness abroad and competition from European manufacturers. The index for railroad equipment and parts rose 0.7 percent in 1998, after declining 1.5 percent a year earlier. This turnaround came about mainly due to new-found price strength in locomotives and parts, which advanced 1.1 percent in 1998, after registering a 4.5-percent decline in 1997. Overall, increasing transportation needs, fueled by the strong domestic economy, seem to have helped firm up prices for transportation products such as locomotives and heavy-motor trucks, as well as for transportation services such as local and long-haul trucking and water transportation of freight.

Drugs and pharmaceuticals. Price increases for drugs and pharmaceuticals accelerated in 1998, on the strength of a much more rapid advance in prescription drugs, which surged 20.9 percent, after posting a 3.6-percent rise in 1997. This advance was fueled by a dramatic increase in prices for psychotherapeutic drugs. However, more moderate increases were observed in other prescription drug categories. Prices for systemic anti-infectives, cardiovascular therapy, dermatologicals, and internal analgesics showed modest increases, while the index for antiarthritic prescription drugs declined 0.2 percent. In contrast to prices for prescription drugs, prices for over-the-counter drugs showed no change, after posting a 0.3-percent gain in the prior year. Over-the-counter drug manufacturers spent much of 1998 adjusting prices modestly through the use of coupons and other special promotions.

Computers. The index for electronic computers fell 26.6 percent in 1998—the third straight calendar year that this index has declined more than 20 percent. Prices fell sharply for personal computers and workstations (46.3 percent), portable computers (47.4 percent), and midrange computers (23.8 percent). The index for large-scale general purpose computers dropped more moderately (10.9 percent). Consumers had more choices than ever before in 1998, as improving technology and production processes continued to result in a multiplicity of improved, low-priced configurations. As in other recent years, heightened price competition was prevalent throughout the industry. The Asian economic crisis added additional price pressure by acting as a source of inexpensive components.

Foods and related products

Prices received by domestic producers of finished consumer foods inched up 0.1 percent in 1998, after falling 0.8 percent in 1997. (See table 4.) Contributing to this turnaround, the indexes for natural, processed and imitation cheese, fluid milk products, fresh vegetables (except potatoes), and shortening and cooking oils all displayed accelerating rates of inflation. Prices turned up after falling a year earlier for young chickens, processed fruits and vegetables, and soft drinks, and for dry, condensed, and evaporated milk products. Declines were smaller in 1998 than in 1997 for beef and veal and eggs for fresh use. By contrast, prices turned down in 1998 after increasing in 1997 for roasted coffee, butter, and finfish and shellfish. The indexes for pork and fresh fruits and melons

Table 4. Annual percent changes in Producer Price Indexes for selected food items, 1994–98

Index	1994	1995	1996	1997	1998
Finished consumer foods	1.1	1.9	3.4	−0.8	0.1
Pork	−11.1	15.3	21.9	−13.6	−27.3
Dairy products	−2.0	5.4	2.4	4.7	10.7
Fresh fruits and melons	−11.2	2.5	37.2	−8.2	−19.0
Fresh and dry vegetables	25.6	−36.0	−24.3	21.6	8.8
Roasted coffee	49.8	−8.2	−8.4	18.1	−9.5
Beef and veal	−4.8	−1.4	7.4	−5.4	−2.7
Processed poultry	−3.7	8.4	2.6	−6.3	3.8
Intermediate foods and feeds	−4.5	10.3	2.1	−1.7	−7.3
Prepared animal feeds	−10.6	20.6	5.4	−3.1	−20.4
Crude vegetable oils	4.1	−14.1	−9.3	13.9	−2.7
Flour	−1.1	20.1	−9.0	−8.2	−5.6
Confectionery materials	2.2	1.5	2.2	−15.8	−1.0
Refined sugar	.8	.8	4.2	-4.5	.6
Crude foodstuffs and feedstuffs	−9.4	12.9	−1.0	-4.0	−11.0
Slaughter hogs	−21.3	40.6	23.2	−21.7	−76.8
Soybeans	−18.1	26.7	−3.7	1.8	−21.3
Wheat	−5.6	29.9	−19.3	−11.3	−15.0
Corn	−22.4	49.4	−21.0	2.2	−22.5
Fluid milk	−5.2	8.4	1.1	2.8	25.6
Slaughter cattle	−5.3	−5.2	−2.5	2.0	−12.0

fell at a faster rate during the most recent year. Price increases slowed markedly for Irish potatoes for consumer use.

The index for intermediate foods and feeds fell 7.3 percent in 1998, following a 1.7-percent decline a year earlier. Prepared animal feed prices declined 20.4 percent, after registering a much smaller drop in 1997 (3.1 percent). Prices for pork also fell at a faster rate, tumbling 27.3 percent, following an already steep 13.6-percent rate of decline in 1997. Price increases slowed for the following items: bulk fluid milk and cream; refined vegetable oils; frozen packaged fish and seafood; canned, cooked, smoked, and prepared poultry; and jams, jellies, and preserves. Prices turned down after increasing in 1997 for crude vegetable oils, chicken hens and other small-game poultry, and tea. By contrast, price increases for natural cheese (except cottage cheese) accelerated to 21.4 percent in 1998, following a 6.1-percent increase in 1997. Prices for refined sugar turned up after falling the previous year, while the index for granulated sugar showed no change after falling the year before. Prices fell less in 1998 than in 1997 for beef and veal, confectionery materials, and flour.

Farm prices, as measured by the Producer Price Index for Crude Foodstuffs and Feedstuffs, decreased 11.0 percent in 1998, after declining 4.0 percent in 1997. The index for slaughter cattle declined 12.0 percent, after registering a 2.0-percent gain 12 months earlier. Slaughter-hog prices plunged 76.8 percent, following an already large, 21.7-percent drop a year earlier. Prices turned down after rising for corn, soybeans, alfalfa hay, and unprocessed and packaged fish. The indexes for wheat, Louisiana rough rice, and breaker-stock and undergrade chicken eggs declined at a faster rate in 1998 than in the previous year. By contrast, fluid milk prices surged in 1998. Citrus fruit, slaughter broilers, and slaughter turkey prices advanced, after declining the previous year.

Grains and feeds. Grain prices fell 18.9 percent in 1998, following a 2.0-percent drop in 1997, and a 20.3-percent decline in 1996. Generally favorable growing conditions throughout 1998 resulted in ample crop harvests and yields per acre.[3] The 1998 corn harvest improved 6.0 percent from its 1997 level, to stand at 9.76 billion bushels. Only the 10.1 billion bushels harvested in 1994 provided a better production total. Furthermore, corn yields increased 7.7 bushels to 134.4 bushels per acre. Total wheat and rice harvests also rose, gaining 2.8 percent and 3.0 percent respectively. However, while wheat yields rose a healthy 9.4 percent to 43.2 bushels per acre, rice yields fell 3.9 percent to 5,669 pounds per acre, due to cold and wet springtime weather.

Prices were further influenced by the Asian financial crisis, which, beginning in the latter half of 1997 and continuing through all of 1998, stifled demand for U.S. exports of corn and wheat. Devalued foreign currencies compounded this problem by giving foreign-grown grains and feeds a competitive price advantage. Wheat ended the year at an index level not seen since 1990, while corn prices closed the year at their lowest level since 1987.

Soybean prices fell 21.3 percent in 1998, after moving up 1.8 percent in 1997. Domestically, soybean production totaled 2.76 billion bushels in 1998, up 3.0 percent from 1997. The 1998 harvest was the largest on record, with the 1997 crop being the second largest harvest to date. Yield per acre stood at 38.9 bushels, the same as in 1997. Only the 41.4 bushels per acre recorded in 1994 was more productive. As with corn and wheat, foreign trade in soybeans was dominated by the Asian financial crisis and its related effects.

With corn, wheat, and soybean prices all in decline, it comes as no surprise that the index for prepared animal feeds also fell precipitously during 1998. Prices fell 20.4 percent, after registering a modest 3.1-percent decrease in the prior year. This was the third largest calendar-year decline on record, behind a 20.7-percent drop in 1955 and a 25.6-percent decrease in 1948. Falling prices for prepared animal feeds helped livestock farmers, who, in 1998, suffered from a market collapse of their own.

Slaughter livestock and meats. After a much ballyhooed year for hog farmers in 1996, slaughter-hog and pork prices began deteriorating in the latter half of 1997 and continued in a downward spiral throughout 1998. During the spike in prices in 1996, many hog farmers expanded their existing herds, and many others entered the market. The resulting increase in production combined with a slowdown in foreign demand (particularly from East Asia) caused slaughter-hog and pork prices to plummet. The index for slaughter hogs declined 76.8 percent in 1998, leaving it at an unprecedented low. The Department of Agriculture estimated yearend slaughter hog prices to be $17.05 per hundredweight, a 60-year low. (The break-even price is considered to be roughly $35.85 per hundredweight.)

In much the same manner, pork prices fell 27.3 percent in 1998, following a 13.6-percent drop in 1997. This decrease in pork prices is the largest calendar-year decline on record, and the fourth largest declining 12-month rate of change observed by the PPI. The current market for slaughter hogs and pork, however, has not resulted in a mass exodus of producers. Instead, cautious optimism arose in the industry, with a general feeling that slaughter hog and pork prices could sink no further, and that a resurgence in the market was therefore inevitable.

During the latter half of 1997 and much of 1998, the Nation's red-meat pipeline was glutted with supply. Low feed costs resulted in record weights for slaughter cattle. Prices for beef, however, fell well below expectations. In the spring of 1998, demand for beef products increased just before the summer grilling season hit its peak. Prices began to track downward in late summer and early autumn, however, primarily because of plummeting prices for pork, a product often substituted for beef.

The year ended mixed—the index for slaughter cattle was 12.0 percent below its level in the previous year, but beef and veal prices were down only 2.7 percent, after registering a 5.4-percent drop in 1997.

Prices for slaughter poultry trended upward in 1998, mainly on the strength of rising prices for slaughter broilers and fryers and for slaughter turkeys. The index for processed young chickens also rose, but turkey-meat prices declined 1.8 percent. Strong domestic demand for breast meat from both food-service outlets and retail food markets helped prices recover from steep declines in 1997. Demand from Russia, particularly for dark meat, lifted prices early in the year. Russia alone accounted for 40 percent of total U.S. chicken exports in 1998. However, the Russian currency crisis of late August left these buyers unable to continue purchasing at their earlier levels. Thus, the slaughter and processed poultry indexes ended the year on a down note.

Fluid milk and dairy products. The index for fluid milk surged 25.6 percent in 1998. Among its component indexes, milk eligible for fluid use jumped 25.1 percent, after posting a 2.3-percent rise in 1997, and prices for manufacturing-grade milk rose 33.3 percent, following a 12.1-percent increase in 1997. Prices for dairy products also rose considerably, advancing 10.7 percent in 1998, after increasing 4.7 percent in the previous year. Inclement weather during the spring and summer months, particularly in the western dairy States, was cited as the driving force behind this run up. Poor weather conditions stressed dairy cattle and increased incidences of udder inflammation, which ultimately translated into higher prices for packaged fluid milk products, as well as for commodities high in butterfat, such as cheese and ice cream. Butter prices were severely influenced, surging 73.8 percent from December 1997 through September 1998. In response, many buyers left the market, resulting in the butter index plummeting 45.7 percent, ending the year 5.7 percent below its 1997 level.

Energy

The PPI for crude energy materials fell 23.8 percent during 1998, following a similarly large drop in 1997. (See table 5.) Prices declined across the board for crude-stage fossil fuels. Prices for crude petroleum decreased 48.6 percent in 1998, following a 28.3-percent decrease in the previous year. Worldwide, crude-oil production remained more than ample, while pockets of economic slowdown, particularly in Asia, limited global demand for crude oil and refined petroleum products. By yearend, the PPI for crude petroleum stood at a level not seen since 1974.

The index for coal declined 1.2 percent in 1998, after advancing 4.9 percent in 1997, when the supply of coal had been disrupted during parts of the year by railroad-related problems. According to the Energy Information Administration, domestic coal production increased 2.6 percent in 1998, while coal imports increased 16.0 percent. After posting a 27.9-percent drop in the prior year, the natural gas index fell 17.8 percent in 1998, as underground natural gas storage levels rose 8.0 percent, following already plentiful levels in 1997.[4]

Table 5. Annual percent changes in Producer Price Indexes for selected energy items, 1994–98

Index	1994	1995	1996	1997	1998
Finished energy goods	3.5	1.1	11.7	–6.4	–11.7
Gasoline	11.2	2.4	27.1	–15.0	–33.1
Home heating oil	6.9	11.9	25.0	–21.7	–36.1
Residential electric power	1.5	.9	.6	–.2	–2.5
Residential natural gas	–2.6	–2.4	11.2	2.4	–2.4
Intermediate energy goods	2.9	1.1	11.2	–7.0	–12.1
Natural gas to electric utilities	3.4	–1.4	6.1	9.3	–24.3
Diesel fuels	5.9	11.1	26.2	–22.5	–33.8
Jet fuels	4.3	6.1	26.1	–22.3	–35.8
Commercial electric power	2.3	.6	–.1	.0	–1.8
Liquefied petroleum gas	13.0	3.9	71.4	–29.3	–32.6
Residual fuels	10.2	–4.7	32.8	–7.6	–39.8
Crude energy materials	–.1	3.7	51.2	–23.1	–23.8
Natural gas	–14.0	–.3	92.0	–27.9	–17.8
Crude petroleum	21.1	10.8	35.8	–28.3	–48.6
Coal	–2.1	–.8	–1.1	4.9	–1.2

The PPI for intermediate energy goods decreased 12.1 percent in 1998, after registering a 7.0-percent decrease in 1997. Gasoline prices fell 33.1 percent, following a 15.0-percent drop a year earlier. For most of the year, total domestic-refinery gasoline production combined with imports outweighed total domestic demand. Other refined petroleum products—jet fuel, kerosene, diesel, and residual fuels—also fell at a faster rate during 1998. The same trend held true for the natural gas sector, where the index for liquefied petroleum gas showed an accelerating rate of decline, while prices for industrial natural gas, natural gas to electric utilities, and commercial natural gas all fell, after rising in 1997. Falling prices for extracted natural gas were a major contributor to this movement. In all, prices for diesel fuel and liquefied petroleum gas finished 1998 at levels not seen since the latter half of the 1980s. Prices for gasoline, kerosene, and jet fuels ended the year at their lowest levels in more than 20 years. In addition, the index for industrial electric power fell 1.3 percent in 1998, following a 0.5-percent rise in the previous year. Commercial electric power prices fell 1.8 percent, after showing no change in 1997. Falling prices for power-generating fossil fuels and increased competition among electricity providers helped push prices lower.

The PPI for finished energy goods declined 11.7 percent in 1998, after posting a 6.4-percent decline in 1997. As in the intermediate stage-of-processing level, the primary cause of this accelerating rate of decline was falling gasoline prices. In addition, the index for residential electric power fell 2.5 percent, after a 0.2-percent drop in 1997. (Residential electric power

is the most heavily weighted item in both finished energy goods and finished goods as a whole.) Prices for home heating oil fell 36.1 percent in 1998, following a 21.7-percent drop a year earlier. By year's end, prices for home heating oil had reached a 12-year low. Prices for residential natural gas decreased 2.4 percent, following a 2.4-percent advance in 1997. Lower input costs and favorable weather conditions in many parts of the country during the heating and cooling seasons were widely cited as helping to keep household energy prices in check.

Intermediate industrial materials

The PPI for intermediate materials other than foods and energy declined 1.6 percent during 1998. This, after registering a 0.3-percent rise in 1997. Leading the way were steadily falling prices for materials for nondurable manufacturing, which had increased modestly in 1997. After showing no change in 1997, prices for materials for durable manufacturing also declined. The index for materials and components for construction rose at a much slower rate in 1998 than in 1997. (See table 6.)

Nondurable manufacturing materials. The index for nondurable manufacturing materials dropped 5.3 percent in 1998, after registering a 0.3-percent rise during 1997. Not since 1951, when this index closed the calendar year down 6.1 percent, has the nondurable manufacturing materials index fallen at such a steep rate for a calendar year. (In publication since 1947, this index had its fastest rate of decline in 1949, falling 8.9 percent.) Throughout 1998, prices for nondurable manufacturing materials declined every month. Three commodity sectors accounted for more than three-fourths of the 1998 downturn: pulp and paper products (excluding building products), industrial chemicals, and plastic resins and materials.

In the pulp and paper sector, paperboard prices declined 8.0 percent, after posting a 5.8-percent advance a year earlier. Writing and printing grade paper prices also turned down, showing a 7.0-percent drop, after a 3.4-percent rise in the previous year. The index for newsprint rose less in 1998 than in 1997. The price of woodpulp—a material input to paper and paperboard production—declined 12.5 percent in 1998, after a 4.1-percent gain in the prior year. In addition, prices for wastepaper and pulpwood—basic industrial materials that are inputs to paper and paperboard—also fell in 1998, after rising in 1997.

Looking to other BLS data relating to the paper and allied products sector, import prices for paper, paperboard, and articles of paper pulp, paper, and board fell 2.7 percent in 1998, while export prices fell 4.5 percent.[5] Also, data published by the Federal Reserve Board indicated that industrial production of paper and allied products fell roughly 1.0 percent in 1998, following increases of 3.3 percent in 1997 and 5.1 percent in 1996.[6] In all, ample supplies of material inputs, production overcapacity, soft foreign market demand, and low-priced imports left pulp and paper products (excluding building products) in decline almost every month during 1998.

The index for industrial chemicals decreased 5.7 percent in 1998, after registering a modest 1.1-percent decrease a year earlier. This steepening rate of decline was led by falling prices for primary basic organic chemicals. Petroleum refinery outputs, such as ethylene and benzene, led the way, dropping 27.3 percent and 19.0 percent, respectively. Both indexes showed much smaller declines the previous year. Also contributing to this price deceleration were falling prices for basic inorganic chemicals. The chlorine index fell 57.0 percent, after a 15.0-percent rise in 1997.

Within plastic resins and materials, prices for thermoplastic resins decreased 15.6 percent, after posting a 3.3-percent decrease a year earlier. For comparison, BLS reported declining import prices in 1998 for organic chemicals, inorganic chemicals, plastic resins and materials, and plastic products. Except for inorganic chemicals, export prices for each of these products also fell.[7] Falling prices for crude petroleum, combined with economic downturn abroad, have been widely cited as contributing to excess worldwide supplies and falling prices for industrial chemicals and plastic resins and materials, as well as for plastic products and other synthetics manufactured from these chemical materials.

Other indexes contributing to the overall downturn in materials for nondurable manufacturing prices include inedible fats and oils, gray fabrics, and synthetic fibers. By contrast, prices for

Table 6. Annual percent change in Producer Price Indexes for selected intermediate and crude materials other than foods and energy, 1994–98

Index	1994	1995	1996	1997	1998
Intermediate goods other than foods and energy	5.2	3.2	−0.9	0.3	−1.6
Nondurable manufacturing materials	10.4	5.9	−3.3	.3	−5.3
Inedible fats and oils	48.0	−3.9	2.1	3.8	−22.8
Woodpulp	38.1	40.7	−33.0	4.1	−12.5
Basic organic chemicals	15.7	.4	3.6	−1.7	−6.4
Durable manufacturing materials	9.8	1.1	−1.4	.0	−5.5
Copper	68.2	−.1	−22.9	−22.8	−17.7
Aluminum	64.4	−7.3	−12.8	12.4	−17.5
Lead	37.5	9.1	4.2	−4.0	−6.3
Zinc	13.1	−5.7	−1.4	2.7	−10.0
Construction materials	3.9	1.9	1.8	1.2	.1
Gypsum products	30.8	1.0	6.6	7.1	7.3
Nonferrous wire and cable	13.8	1.6	-3.1	−2.2	−4.6
Softwood lumber	−9.6	−10.3	19.6	−3.8	−10.1
Crude nonfood materials less energy	17.3	−4.2	−5.5	.0	−16.0
Wastepaper	179.6	−50.9	−1.3	11.6	−28.9
Nonferrous scrap	70.3	−10.3	−7.9	−.6	−24.8
Raw cotton	34.9	4.2	−13.0	−11.2	−8.0
Sand and gravel	2.3	3.6	1.9	1.8	3.5

phosphates, stemmed and redried tobacco, and for cotton broadwoven fabric rose slightly, after falling modestly in the prior year.

Durable manufacturing materials. The PPI for durable manufacturing materials declined 5.5 percent in 1998, after posting no change in 1997. This index, also in publication since 1947, has never before shown a calendar-year decline of this magnitude. Previously, the steepest rate of decline recorded was 4.3 percent in 1949. Nearly four-fifths of this downturn can be attributed to two related commodity areas—nonferrous metals and steel mill products.

Within nonferrous metals, prices for aluminum mill shapes fell 8.5 percent in 1998, following a 6.8-percent rise a year earlier. The indexes for copper and brass mill shapes and for nonferrous wire and cable fell more in 1998 than in 1997. Prices for nonprecious primary nonferrous metals decreased 17.4 percent, after registering a more modest 3.5-percent decrease a year earlier. This steepening rate of decline was mostly due to falling aluminum prices. Declines in the indexes for nonferrous metals were roughly consistent throughout the year, and generally were attributed to falling prices for nonferrous metal ores and nonferrous scrap (basic industrial materials). Other factors include soft foreign demand due to economic weakness abroad, excess worldwide production, and falling prices for competing imports entering the United States.

Within ferrous metals, prices for steel mill products declined 6.5 percent in 1998, following a 0.5-percent rise in 1997. Most of this downturn occurred in the latter half of the year, culminating with 1.3-, 1.4-, and 1.4-percent decreases in October, November, and December, respectively. Steel mill products finished 1998 at an index level not seen since mid-1993. Domestic steel demand remained adequate throughout the year; however, increasing amounts of low-priced imports flooded the United States at a pace that topped even the record volume of 1997.[8]

The latter half of 1998 saw Russia, Brazil, Japan, and other steel-producing nations selling their steel for very low prices. Domestic steel producers, unhappy with the pricing strategies of their foreign counterparts, began accusing foreign producers of dumping. As a result, the U.S. Department of Commerce and Russia reached an agreement in early 1999, establishing a price floor on all steel mill products entering the United States and limiting the amount of steel imported from Russia. Trade cases covering a number of steel products continue, as do discussions with other countries.

Other indexes contributing to the downturn in materials for durable manufacturing prices included both softwood lumber and hardwood lumber.

Materials and components for construction. The PPI for materials and components for construction advanced 0.1 percent in 1998, after registering a 1.2-percent gain in 1997. Prices for softwood lumber fell 10.1 percent, following a 3.8-percent drop in 1997. The index for hardwood lumber declined 1.2 percent in 1998, after increasing 7.4 percent a year earlier. Hardwood lumber prices fell modestly but steadily throughout the year. The slide in softwood lumber troughed during the spring and summer months—the peak of the construction season. Observation suggests that both U.S. and Canadian lumber producers overestimated peak-season domestic and export demand. Reduced exports to Asia weighed heavily on this sector, leaving the North American producers with excess supply. The active domestic construction market was unable to completely make up the difference. Prices for steel mill products, paving asphalt, wiring devices, and hardwood flooring fell, after rising the year before. On the other hand, the indexes for ready-mixed concrete, unitary air conditioners, and prepared paint rose more in 1998 than in the previous year. Prices for softwood plywood, mineral wool for structural insulation, and for asphalt and tar roofing and siding products all advanced, after declining in 1997.

The index for materials and components for construction was the only major stage-of-processing category within intermediate goods to show rising prices in 1998. Low interest rates and low unemployment rates, as well as continued domestic economic expansion, have been widely cited as contributing to continued growth within the construction sector. According to the Bureau of the Census, the total value of construction put in place rose 10.1 percent in 1998 (based on current dollars, not seasonally adjusted).[9] This advance was led by a 12.2-percent rise in residential building private construction and an 8.1-percent rise in nonresidential private construction. The value of public construction put in place rose more modestly in 1998—1.9 percent.

Basic industrial materials

The PPI for basic industrial materials—crude nonfood materials other than foods and energy—declined 16.0 percent in 1998, after posting no change in 1997. Leading the way were falling prices for scrap metal. Also contributing to this price deceleration were downturns for wastepaper; logs, bolts, timber, and pulpwood; cattle hides; and wool. As with intermediate materials, prices for basic industrial materials in 1998 were dominated by two related factors: weak demand from foreign economies due to economic stagnation and currency devaluation, and increased low-priced imports entering the United States from these same countries.

The index for iron and steel scrap declined 39.9 percent in 1998, following a 14.5-percent rise in 1997. The index for aluminum base scrap decreased 24.5 percent, after rising 9.6 percent in the prior year. Prices for copper base scrap also fell more in 1998 than in 1997. Warm weather during the early part of 1998 resulted in unexpectedly plentiful supplies of ferrous scrap. (Mild weather permits scrap-metal processing to continue unabated.) In addition, domestic manufactur-

ing activity was at its strongest during the early portion of the year, and as a result, the first part of 1998 saw a plentiful supply of prime industrial-grade scrap generated. As the year progressed, a slowdown in domestic manufacturing and steadily worsening foreign demand for U.S. scrap pinched prices even further. Late in the year, domestic markets were overwhelmed with low-priced imported pig iron, a substitute for iron and steel scrap. By yearend, the index for iron and steel scrap stood at a 12-year low, while nonferrous scrap prices stood at a 5-year low.

Also contributing to the price deceleration in basic industrial materials were downturns for wastepaper and for logs, bolts, timber, and pulpwood. As with scrap metal, prices for wastepaper spent most of 1998 in retreat. Mild winter weather conditions and lack of demand from foreign buyers left the old corrugated containers index down 55.5 percent, after it had risen 22.3 percent in 1997. Among high-grade and newsprint wastepaper, price declines were mainly due to oversupply concerns. For much the same reason, the index for mixed wastepaper rose much less in 1998 than in 1997. Compounding the situation, current production in the paper and paperboard industry stands in a state of overcapacity.

In the timber sector, prices for softwood logs fell 6.5 percent, after dropping 1.0 percent a year earlier. The index for hardwood logs declined 11.6 percent, following an 8.4-percent advance in 1997. A surge in Canadian exports—partly fueled by increased felling and partly fueled by Canadian currency devaluation relative to the U.S. dollar—amplified domestic price weakness caused by the Asian economic downturn. Pulpwood prices also fell after rising the previous year. The pulpwood index retreated mostly out of competition with wastepaper and woodpulp—substitutes with declining prices in 1998.

The index for cattle hides also contributed to the downturn in basic industrial materials, falling 22.5 percent in 1998, following a drop of 9.7 percent in 1997. Exports of hides and skins declined 25.0 percent over the year. Wool prices decreased 51.1 percent, after rising 27.9 percent in the previous year. Prices for gold ores stabilized, rising 2.1 percent, following a 21.3-percent decline in 1997. Construction-related demand helped the index for construction sand, gravel, and crushed stone rise 3.5 percent, after registering a 1.8-percent rise a year earlier. A poor-quality cotton crop in 1997 resulted in textile producers turning away from U.S.-grown cotton in favor of foreign cotton. As a result, raw cotton prices decreased 8.0 percent in 1998, although less than the 11.2-percent drop observed in 1997.

Mining and manufacturing industries

Mining. The PPI for the net output of total domestic mining industries decreased by 19.7 percent in 1998, after falling 20.2 percent the previous year. (See table 7.) This decline was mainly due to falling prices in the oil and gas extraction industry—its index decreased by 25.6 percent in 1998, following a 24.6-percent decline in 1997. The index for the metal mining industry group decreased 7.1 percent, its third consecutive yearly decline. Prices received by the coal mining industry group fell 1.9 percent. However, the index for the nonmetal-

Table 7. Annual percent changes in Producer Price Indexes for the net output of major industry groups, 1994–98

Index	1994	1995	1996	1997	1998
Mining industries	−1.0	2.9	40.6	−20.2	−19.7
Metal mining	35.5	6.2	−12.7	−14.3	−7.1
Coal mining	−2.1	−.8	−.7	2.8	−1.9
Oil and gas extraction	−3.2	3.5	57.9	−24.6	−25.6
Mining and quarrying of nonmetallic minerals, except fuels	1.4	2.9	2.2	2.2	2.2
Manufacturing industries	2.4	3.0	2.2	−.8	−.9
Food and kindred products	−.3	4.0	3.2	−.9	−.8
Tobacco manufactures	.3	3.8	3.2	9.0	44.1
Textile mill products	.7	2.6	1.1	.5	−1.3
Apparel and other finished products made from fabrics and similar materials	.4	.8	2.0	.9	.6
Lumber and wood products, except furniture	1.3	−2.6	3.0	1.3	−1.4
Furniture and fixtures	3.0	3.0	1.9	1.1	.9
Paper and allied products	10.7	13.1	−10.3	1.9	−2.8
Printing, publishing, and allied industries	3.8	7.0	2.4	2.6	2.3
Chemicals and allied products	7.4	6.0	1.5	.6	.4
Petroleum refining and related products	8.9	2.6	22.7	−14.5	−28.8
Rubber and miscellaneous plastic products	3.6	2.6	.1	−.4	−.8
Leather and leather products	2.5	1.5	1.1	1.0	−.5
Stone, clay, glass, and concrete products	4.3	2.7	1.3	.9	2.0
Primary metal industries	9.3	3.2	−3.0	.7	−5.6
Fabricated metal products, except machinery and transportation equipment	2.4	3.4	.6	1.2	.5
Machinery, except electrical	.9	1.4	−.6	−.6	−.6
Electrical and electronic machinery, equipment, and supplies	.3	.7	−.7	−1.7	−.7
Transportation equipment	2.4	2.1	.5	−1.0	.9
Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	1.2	1.5	.6	.5	.1
Miscellaneous manufacturing industries	1.6	2.0	1.4	.6	.5
Service industries					
Railroad transportation	.4	−.3	.0	1.0	.5
Motor freight transportation and warehousing	2.7	1.7	2.4	2.1	3.0
U. S. postal service	.0	10.4	.0	.0	.0
Water transportation	2.5	2.4	.2	−.9	2.3
Transportation by air	−.3	7.4	5.9	.5	2.6
Pipelines, except natural gas	10.2	3.4	−8.8	−2.2	.5
Health services	–	3.5	1.7	1.0	1.9
Legal services	–	–	–	4.1	2.5

NOTE: Dash indicates that index is not included in estimation.

lic minerals mining industry group increased 2.2 percent, the same rate of increase observed in 1996 and 1997.

Manufacturing. The PPI for the net output of the domestic manufacturing sector moved down 0.9 percent in 1998, after posting a 0.8-percent decline in 1997. Among manufacturing industries, prices increased in the following industry groups: tobacco manufactures; printing, publishing, and allied industries; transportation equipment; nonmetallic mineral products; and furniture and fixtures. By contrast, prices declined for petroleum refining and related products, food and kindred products, paper and allied products, primary metal industries, textile mill products, and electrical and electronic machinery and equipment.

Selected services industries

Health care. Among selected services industries for which the PPI publishes data, prices for health care services rose 1.9 percent in 1998, after increasing 1.0 percent in 1997. (See table 8.) The index for offices and clinics of doctors of medicine led the way with a 2.6-percent rise, after registering a 1.2-percent gain a year earlier. Physicians continue to consolidate into larger group practices and provider networks, hoping to compete more effectively for managed-care dollars while at the same time enhancing their bargaining position.

Prices received by general medical and surgical hospitals and by specialty hospitals (except psychiatric) also rose at a faster rate. Within physician services and general medical and surgical hospitals, the most noticeable shift was an upturn in the medicare payment indexes. In general medical and surgical hospitals, price changes for the medicaid-patients indexes and for the all-other-patients indexes were much more subdued. As has been the case since 1994, when the index for skilled and intermediate care facilities first became available, its prices increased more rapidly than any other health-services index in 1998. By contrast, price increases slowed for home health care services and for medical laboratories.

Distribution. The solid U.S. economy, growing at nearly 4.0 percent annually for the second consecutive year, permitted the majority of service providers belonging to the distribution sector to receive higher prices in 1998. Of the 20 distribution-services industries for which PPI publishes price indexes, all but 4 increased prices in 1998. In 1997, 13 of 20 industries raised prices. From December 1997 to December 1998, the index for trucking, except local, rose 3.4 percent, following a 2.6-percent rise in 1997. Factors helping to firm up prices in the industry included continued consolidation in the long-haul trucking industry (which led to fewer providers) and customer demand for improved inventory control through just-in-time delivery procedures. Rising prices for household-goods carriage and general-freight trucking were most notable. In addition, although prices for diesel fuel fell 33.8 percent over the course of the year, the effect on increasing prices the distribution industry was minimal. Prices in 1998 also increased in local trucking without storage.

The index for railroad line-haul operations rose 0.5 percent in 1998, after rising 1.0 percent in 1997. This modest advance reflected increased charges for trailer-on-flatcar freight shipments and passenger transportation services. Prices for non-trailer-on-flatcar freight shipments fell 0.1 percent for the year. Freight-sector performance improved markedly in 1998, after the previous year had been filled with delays and disruptions in the face of strong demand. Analysts attributed the problems to consolidations and mergers in the industry that took place in the mid-1990s. By 1998, however, intermodal volume totaled more than 8.7 million trailers and containers, a 0.9-percent increase from the previous year. In addition, total freight volume reached a record-level 1.376 trillion ton-miles, a 1.8-percent increase over the year. (Ton-miles are equal to the total shipment weight multiplied by total travel distance.) By these measures, 1998 was the most active years on record for freight transportation.

Other distribution services industries with increasing price indexes in 1998 include general warehousing and storage, foreign deep sea freight transportation, tugging and towing services, courier services (land and air), airports and airport services, and crude petroleum pipelines.

Real estate. The index for real estate agents and managers rose 2.6 percent in 1998, after rising 1.4 percent in 1997. Housing demand remained solid throughout the year, as many current owners and first-time buyers entered the market. The rate of home ownership in 1998 ended the year at 66.4 percent, its highest level since this data entered publication in 1965. Plentiful employment, rising real income, mortgage rates hovering near 6.5 to 7.0 percent, and higher limits on Federal Housing Administration loans, all helped lead to increasing home sales, as well as increasing fees for appraisals and commissions on sales.

The index for operators and lessors of nonresidential buildings rose 1.2 percent, following a 2.2-percent advance the year before. The strong economy also helped keep retail and industrial vacancies low, and these markets readily absorbed space as it became available, allowing these indexes to rise. However, the index for the operators and lessors of office property showed no change in 1998, after increasing 3.7 percent a year earlier. Expanded suburban construction led to supply concerns that vacancy rates would increase in the future. Operators and lessors responded by stabilizing commercial rental rates in an attempt to fill new and existing buildings.

Professional, scientific, and technical. The functions performed by advertising, legal, and accounting firms are required in the day-to-day operations of most companies, and

Table 8. Annual percent changes in Producer Price Indexes for the net output of selected service industries, 1994–98

SIC code	Industry	1994	1995	1996	1997	1998
	Distribution					
4011	Railroads, line-haul operating	.4	–.3	0.0	1.0	.5
4212	Local trucking without storage	1.7	1.9	.0	2	1.7
4213	Trucking, except local	3.1	.9	3.5	2.6	3.4
4214	Local trucking with storage	.7	10.9	.1	.6	.5
4215	Courier services, except by air	3.8	3.3	3.0	3.8	4.2
4221	Farm product warehousing and storage	.6	2.2	–1.5	2.0	.6
4222	Refrigerated warehousing and storage	.6	1.7	.5	.1	.5
4225	General warehousing and storage	1.3	1.3	1.4	.7	2.9
4311	United States Postal Service	.0	10.4	.0	.0	.0
4412	Deep sea foreign transportation of freight	–3.9	.8	.7	–3.7	4.7
4424	Deep sea domestic transportation of freight	7.6	–.6	1.9	–.6	.2
4432	Freight transportation on the Great Lakes-St. Lawrence Seaway	–1.4	3.0	1.8	1.4	.8
4449	Water transportation of freight, n.e.c.	15.4	9.7	–10.1	–.4	–2.2
4491	Marine cargo handling	–.5	–.9	1.0	1.2	1.8
4492	Tugging and towing services	3.5	5.3	2.4	2.2	2.8
4513	Air courier services	1.6	1.9	4.6	–3.9	3.1
4581	Airports, flying fields, and airport services	1.1	2.2	3.8	3.0	3.0
4612	Crude petroleum pipelines	13.7	4.6	–12.4	–3.7	1.4
4613	Refined petroleum pipelines	1.8	.1	.4	1.2	–1.1
4731	Freight transportation arrangement	–	–.7	2.7	–1.4	–.6
	Communications					
4813	Telephone communications, except radiotelephone	–	–	–.1	–.4	–1.7
4832	Radio broadcasting	6.8	5.8	10.8	3.1	.8
4841	Cable and other pay television services	–.4	3.2	5.1	4.7	3.7
	Real estate					
6512	Operators and lessors of nonresidential buildings	–	–	–.6	2.2	1.2
6531	Real estate agents and managers	–	–	–.5	1.4	2.6
	Professional, scientific, and technical					
7311	Advertising agencies	–	–	1.7	2.5	1.3
8111	Legal services	–	–	–	4.1	2.5
8711	Engineering design, analysis, and consulting services	–	–	–	3.1	2.9
8712	Architectural design, analysis, and consulting services	–	–	–	3.0	5.3
8721	Accounting, auditing, and bookkeeping services	–	–	2.8	2.1	3.0
	Health care					
8011	Offices and clinics of doctors of medicine	4.1	2.9	.7	1.2	2.6
8053	Skilled and intermediate care facilities	–	5.9	5.4	4.2	4.4
8062	General medical and surgical hospitals	3.4	3.7	1.5	.5	1.3
8063	Psychiatric hospitals	4.2	.1	5.0	–6.7	.5
8069	Specialty hospitals, except psychiatric	5.2	1.8	2.9	.6	2.3
8071	Medical laboratories	–	5.2	.2	.9	.2
8082	Home health care services	–	–	–	6.2	.5
	Other					
4512	Air transportation, scheduled	–.7	8.7	6.5	.9	2.5
4522	Air transportation, nonscheduled	.7	1.8	2.2	–1.6	2.6
4724	Travel agencies	–2.7	–6.9	2.6	1.5	–2.3
7011	Hotels and motels	1.4	4.0	4.8	4.1	4.2
7349	Building cleaning and maintenance services, n.e.c.	–	1.6	2.0	1.4	1.1
7361	Employment agencies	–	.8	1.8	1.0	2.9
7363	Help supply services	–	3.8	1.4	1.8	2.2
7372	Prepackaged software	–	–	–	–	.9
7513	Truck rental and leasing, without drivers	2.2	3.6	–.8	.5	–.9
7514	Passenger car rental, without drivers	2.4	7.4	–5.0	13.7	–4.0

NOTE: Dashes indicate that index is not included in estimation.

professional, scientific, and technical firms from the United States maintain a worldwide client base. Domestic economic strength has served to further increase demand for activities such as advertisement creation and placement; corporate, real estate, banking and commercial-type legal counsel; as well as auditing and tax preparation and consulting. The indexes for all of these service lines increased in 1998. Prices received by establishments engaged in engineering and architecture also advanced in 1998, with strength in

the residential and commercial construction sectors contributing to this broad-based increase.

Communications. The index for cable and other pay television services rose 3.7 percent in 1998, following a 4.7-percent increase in 1997. Price increases were observed for both subscriber services and cable advertising. Subscriber cable rates, deregulated when the Telecommunications Act of 1996 was signed into law, have been on the rise. Cable systems also are permitted to pass through increased costs of programming and new capital equipment. All remaining regulation of the industry is scheduled to end in 1999. Furthermore, cable advertising rates have benefited from increased viewership—often at the expense of network broadcast television.

By contrast, the index for telephone communication (except radiotelephone) fell 1.7 percent in 1998, after posting a much smaller drop of 0.4 percent in 1997. Competition among long-distance carriers forced public-switched toll prices down a full 3.2 percent. However, the index for local service (except private lines) fell only 0.1 percent. Portions of the Telecommunications Act of 1996 were meant to increase competition and reduce prices for local telephone service, outcomes not yet realized to any substantial degree. The index for radio broadcasting increased just 0.8 percent, following a 3.1-percent rise in 1997. This slower rate of increase resulted partly from falling prices for network time sales, as well as slowing rates of increase in prices of local-station time sales.

Other service industries. The index for scheduled air transportation accelerated from 0.9 percent in 1997 to 2.5 percent in 1998. This faster rate of increase was the result of rising prices for scheduled passenger transport, which increased 2.7 percent. By contrast, the scheduled air cargo transportation index rose a modest 0.4 percent. Prices for the nonscheduled air transportation industry also rose, on the strength of an 8.3-percent jump in prices for charter services. The major factors influencing prices for air transportation services in 1998 were a robust economy—which led to increased demand and potentially higher prices—versus declining jet-fuel costs and increased competition among producers helping to keep prices in check.

A 24.7-percent drop in the index for the arrangement of international flights led to a 2.3 percent decline in the index for travel agents. This precipitous drop was fueled by announcements by major airlines that commissions on international flights would be capped at $100, effective November 1998. By contrast, the domestic flight portion of the airline arrangements index increased 2.8 percent.

The index for hotels and motels advanced 4.2 percent in 1998, in line with recent yearly advances. Charges for guest-room rentals rose 4.7 percent, while prices for food and beverages increased 3.3 percent. Casino gaming receipts advanced more modestly—1.0 percent. Although the supply of rooms continued to grow steadily, occupancy rates remained high. This period of economic prosperity has resulted in increased business and leisure travel, permitting the hotel and motel industry to charge higher prices.

The newly introduced index for prepackaged software increased 0.9 percent in its first year of publication. Prices rose for computer games and other prepackaged software, as well as for maintenance, documentation, training, and other software services. Falling prices were registered for applications software. Introduced in June of 1998, the index for property and casualty insurance advanced 0.1 percent during its first 6 months of publication. Advancing prices for homeowner's insurance, medical malpractice insurance, and commercial auto insurance slightly outweighed declining indexes for product liability insurance and workers' compensation insurance. In an effort to further expand PPI coverage of the service-producing sector of the economy, indexes for life insurance carriers were introduced in December 1998. In the upcoming year, BLS plans to further expand its service-producing sector coverage to include indexes for wholesale trade, retail trade, wireless telephone services, and securities brokers and dealers. □

Notes

[1] The data in this table are derived from a count of the six-digit commodity indexes contributing to each stage-of-processing category except crude energy materials, which uses the three-digit codes for coal, natural gas, and crude petroleum. Data for 1998 are preliminary, first-published values.

[2] *U.S. import and export price indexes, December 1998*, USDL–99–13 (U.S. Department of Labor), Jan. 15, 1999.

[3] *Crop Production, 1998 Summary, January 1999*, USDA–Cr–Pr–2–1–99 (U.S. Department of Agriculture, National Agricultural Statistics), Feb. 1, 1999.

[4] The figures on domestic coal production and imports and undergound natural gas storage levels were obtained from the Energy Information Administration's website at **http://www.eia.doe.gov/** (visited July 15, 1999). For coal production and import figures, see Frederick L. Freme and B.D. Hong, "U.S. Coal Supply and Demand: 1998 Review," at **http://www.eia.doe.gov/cneaf/coal/cia/new_yr_revu/coalfeat.html** (visited July 15, 1999). For natural gas figures, see *Natural Gas Monthly, June 1998* at **http://www.eia.doe.gov/natural_gas/nat_frame.html** (visited July 15, 1999).

[5] *U.S. import and export prices, December 1998.*

[6] Federal Reserve Board statistical database, on the Internet at **http://www.bog.frb.fed.us/releases/** (visited July 15, 1999).

[7] *U.S. import and export prices, December 1998.*

[8] *1998 Annual Statistics* (Bureau of the Census), exhibit 1, on the Internet at **http://www.census.gov/foreign-trade/www/** (visited July 15, 1999).

[9] *Value of Construction Put in Place, December 1998*, C30/98–12 (Bureau of the Census), February 1999.

Worker displacement in the mid-1990s

During 1995–96, the number of workers who lost jobs declined and the proportion that was reemployed rose; compared with the previous survey, displaced workers spent fewer weeks without work and suffered less severe earnings losses

Steven Hipple

The years 1995 and 1996 marked the fifth and sixth consecutive years of economic growth that began in the early 1990s. During these 2 years, 5.0 million jobs were added to nonfarm payrolls. The unemployment rate, which peaked at 7.8 percent in mid-1992, remained at about 5½ percent during 1995–96.[1]

Despite these favorable labor market conditions, between 1995 and 1996 2.2 million workers aged 20 years and older lost jobs they had held for 3 or more years because their plants or companies closed down or moved, their positions or shifts were abolished, or their employer did not have enough work for them to do.[2] In comparison, 2.4 million workers in that age group were displaced between 1993 and 1994, also a period of strong labor market conditions.

The displacement rate, which represents the likelihood of being displaced, fell from 3.3 percent during 1993–94 to 2.9 percent during 1995–96.[3] Of the 2.2 million workers displaced in the most recent period, 83 percent were reemployed when surveyed in February 1998. Workers who lost jobs earlier in the decade had not fared nearly as well: of those who had lost jobs during 1991 and 1992, only 75 percent were working in February 1994.

Since 1984, the Employment and Training Administration of the U.S. Department of Labor has sponsored biennial surveys of worker displacement as supplements to the Current Population Survey (CPS). Using data from these surveys, this article examines the experience of job loss and reemployment. Two years of data from each of the Displaced Worker Surveys were used to form a time series that begins with the 1981–82 period (from the 1984 survey) and ends with the 1995–96 period (from the 1998 survey). For the most part, the results of the last two surveys are emphasized. (For a description of the Displaced Worker Survey, see the appendix to the article.) In addition, the article focuses on workers who lost or left jobs they had held for at least 3 years (referred to as *long-tenured* workers). The rationale for excluding short-tenured workers is that it lessens the likelihood of including among displaced workers those who lost their jobs as a result of a "bad match" between the worker and the employer, and not as a result of labor market conditions. Furthermore, restricting the analysis to long-tenured workers ensures that the focus is on workers who had developed a substantial attachment to their employers and presumably had acquired some amount of job-specific skills.

Who was displaced?

Age, sex, race, and Hispanic origin. Compared with the 1993–94 period, in 1995–96 the risk of job loss fell for many of the major demographic groups. (See table 1.) Displacement rates were lower for workers in all age groups, with the exception of those aged 55 and older.

During 1995–96, the majority of displacements continued to be made up of men, although the share consisting of women continued to increase. This rise reflects women's increased share of the labor force and the recent rise in their displacement rates relative to those of men. In fact, during 1995–96, the displacement rate for women (3.2 percent) actually exceeded that for men (2.8 percent) for the first time since the Displaced

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Table 1. Displacement rates of long-tenured workers, by age, sex, race, and Hispanic origin, 1981–96

[In percent]

Characteristic	1981–82	1983–84	1985–86	1987–88	1989–90	1991–92[1]	1993–94[1]	1995–96[1]
Total								
Total, 20 years and older	3.9	3.1	3.1	2.4	3.1	3.9	3.3	2.9
20 to 24 years	4.0	2.0	1.8	2.0	2.2	2.0	2.5	1.9
25 to 54 years	4.0	3.3	3.3	2.5	3.1	3.9	3.4	2.9
25 to 34 years	5.0	3.9	3.5	2.5	3.1	3.9	3.5	2.9
35 to 44 years	3.8	3.1	3.3	2.7	3.2	4.0	3.4	3.0
45 to 54 years	3.0	2.6	3.0	2.2	3.1	3.9	3.4	3.0
55 years and older	3.6	3.1	2.9	2.2	3.1	4.4	3.1	3.3
55 to 64 years	3.8	3.1	3.0	2.3	3.3	4.5	3.0	3.3
65 years and older	3.2	2.9	2.3	1.9	2.4	3.8	3.2	3.5
Men, 20 years and older	4.3	3.2	3.3	2.4	3.2	4.1	3.4	2.8
Women, 20 years and older	3.4	2.9	2.8	2.4	2.8	3.5	3.2	3.2
White								
Total, 20 years and older	3.8	3.1	3.1	2.4	3.0	3.8	3.3	3.0
Men	4.2	3.2	3.3	2.4	3.2	4.1	3.4	2.8
Women	3.3	2.9	2.8	2.4	2.8	3.4	3.2	3.2
Black								
Total, 20 years and older	4.8	3.9	3.4	2.0	3.5	3.8	3.5	2.7
Men	5.3	4.0	4.1	1.6	3.9	3.9	4.2	2.6
Women	4.3	3.8	2.6	2.4	3.2	3.7	2.9	2.8
Hispanic origin								
Total, 20 years and older	4.3	3.9	3.9	2.9	4.3	4.7	3.6	4.0
Men	4.3	3.9	4.1	2.6	4.1	5.2	3.9	3.2
Women	4.4	3.8	3.5	3.3	4.7	3.8	3.1	5.3

[1] Beginning with the 1991–92 period, data are not directly comparable with data from earlier periods, due to differences in estimation methodology.

NOTE: Displacement rates are calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted, 2-year average estimate of employment for the same worker group. Employment estimates for each year were adjusted, using job-tenure data from the January 1983, 1987, and 1991 and February 1996 and 1998 CPS supplements, to include only those workers with 3 or more years of tenure . A 2-year average was then computed using the adjusted employment estimates.

Worker Survey was conducted.

Among the major racial and ethnic groups, whites and blacks saw their job loss rates decline between the 1996 and 1998 surveys. The rate for whites fell from 3.3 percent to 3.0 percent, and that for blacks dropped from 3.5 percent to 2.7 percent. By contrast, the rate for Hispanics edged up from 3.6 percent to 4.0 percent.

The displacement rate for black men was considerably higher than that for white men throughout much of the 1980s, a trend recently reconfirmed by Robert W. Fairlie and Lori G. Kletzer.[4] These authors concluded that racial differences in educational attainment and occupational distributions provide a partial explanation for the differences in displacement rates between the two groups. Any differences in industry distributions, however, do not explain the gap in displacement rates between blacks and whites.[5]

Educational attainment. As with unemployment, the risk of job loss declines as the number of years of schooling completed increases. But the spread in displacement rates is much less than it is for unemployment. For example, during 1995–96, the 2-year average unemployment rate for persons aged 20 years and older with less than a high school diploma was 10.0 percent, in contrast to 2.0 percent for those with advanced degrees. The displacement rate during that same period ranged from 3.7 percent for workers with less than a high school diploma to 2.1 percent for those with advanced degrees. (See chart 1.)

Research on displacement conducted by Henry S. Farber and by Daniel Aaronson and Daniel G. Sullivan showed that, although the probability of job loss falls substantially with increasing levels of education, the risk of displacement for workers with more education has risen gradually since the early 1980s.[6]

Industry and occupation. Compared with the previous survey period, displacement rates fell for every major industry during 1995–96. In general, workers in goods-producing industries—mining, construction, and manufacturing—continued to have a higher probability of losing their jobs than workers in service-producing industries. Among goods-producing industries, the displacement rate was highest for workers in *nondurable* goods manufacturing (5.8 percent). Indeed, workers in this sector of manufacturing had their highest risk of displacement since the recession of the early 1980s. By contrast, workers in *durable* goods manufacturing had the lowest likelihood

Chart 1. Displacement rates for long-tenured workers by educational attainment, 1995–96

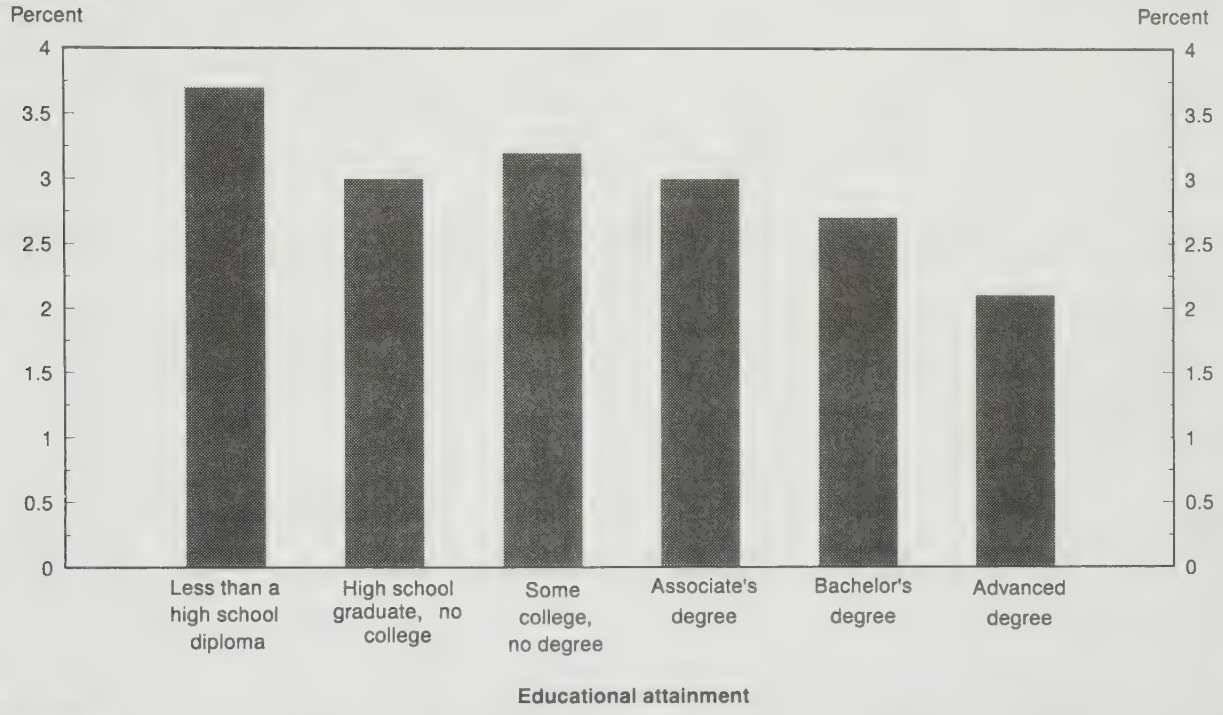
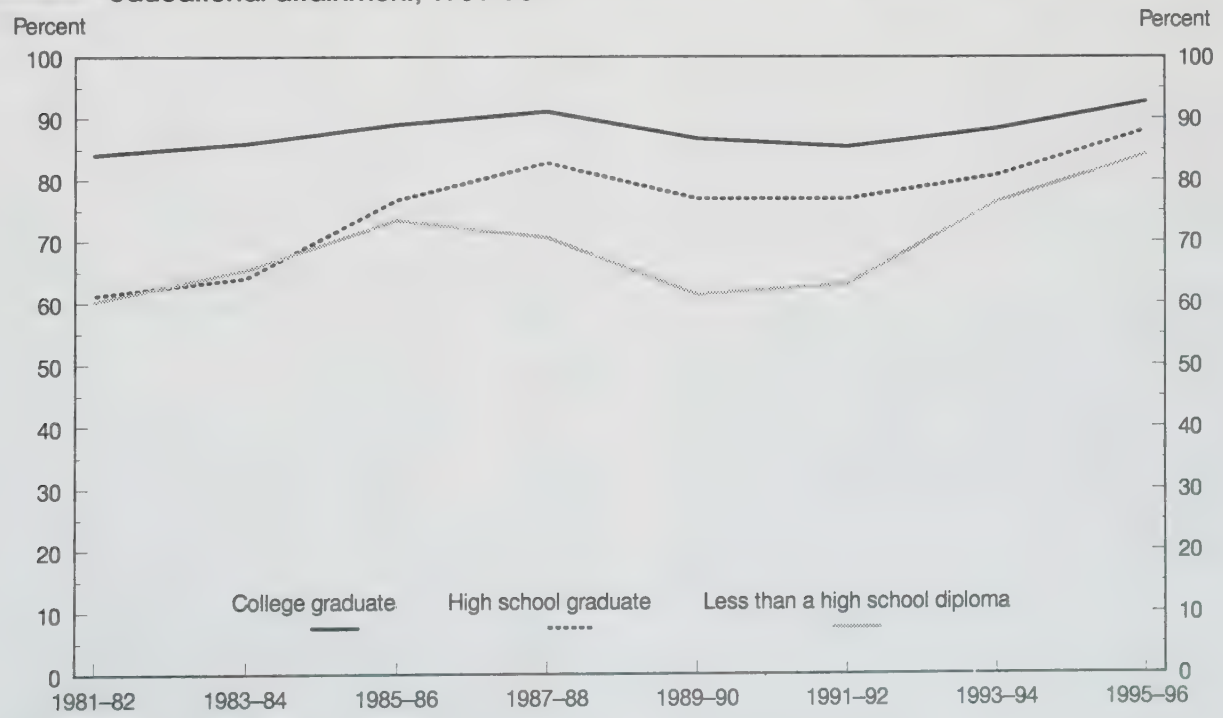


Chart 2. Reemployment rates for long-tenured displaced workers aged 25 to 54 years, by educational attainment, 1981–96



of losing their jobs in nearly a decade and the second lowest since the early 1980s. The job loss rate for construction workers during 1995–96 (3.4 percent) was the lowest measured since the inception of the Displaced Worker Survey. (See table 2.)

Within the service-producing sector, workers in the services industry, which includes business, health, and educational services, continued to have the lowest probability of losing their jobs. During 1995–96, the displacement rate for the services industry was 2.5 percent, slightly lower than the rate recorded during 1993–94 (2.8 percent). In the 1998 survey, workers in wholesale and retail trade had the highest displacement rate in the service-producing sector (4.3 percent). For much of the 1980s, the probability of a government worker losing a job was much lower than that of a worker employed in private industry. In 1991–92, however, the displacement rate for government workers rose to more than 1 percent, and the rate even edged up to 1.4 percent

Table 2. Displacement rates of long-tenured workers, by industry, class of worker, and occupation of lost job, 1981–96

[In percent]

Characteristic	1981–82	1983–84	1985–86	1987–88	1989–90	1991–92[1]	1993–94[1]	1995–96[1]
Total, 20 years and older	3.9	3.1	3.1	2.4	3.1	3.9	3.3	2.9
Industry and class of worker								
Nonagricultural private wage and salary workers	5.3	4.2	4.3	3.2	4.1	5.1	4.4	3.8
Mining	13.6	9.2	17.8	6.1	10.0	7.4	7.2	4.5
Construction	7.6	5.5	7.0	4.2	5.9	8.4	4.3	3.4
Manufacturing	8.2	6.5	5.2	3.9	5.0	7.1	5.8	5.1
Durable goods	9.3	7.0	5.8	4.0	5.1	8.4	6.3	4.6
Nondurable goods	6.4	5.6	4.1	3.7	4.9	5.2	5.1	5.8
Transportation and public utilities	4.1	3.8	3.1	1.8	3.6	4.4	4.3	3.8
Wholesale and retail trade	3.7	3.1	4.3	3.6	3.9	4.7	4.6	4.3
Finance, insurance, and real estate	1.4	1.3	3.5	2.8	3.5	5.5	4.7	3.5
Services	2.3	2.1	2.3	1.7	2.1	2.9	2.8	2.5
Agricultural wage and salary workers	5.4	9.7	4.1	2.5	3.2	3.8	3.4	2.2
Government workers	1.2	.6	.4	.4	.4	1.1	1.3	1.4
Occupation								
White-collar occupations[2]	2.6	2.1	2.6	2.1	2.7	3.7	3.3	2.9
Managerial and professional specialty	2.1	1.8	2.1	1.8	2.3	3.6	2.9	2.3
Executive, administrative, and managerial	2.5	2.4	2.8	2.5	3.4	4.8	3.5	2.7
Professional specialty	1.7	1.2	1.4	1.1	1.3	2.4	2.4	2.0
Technical, sales, and administrative support	3.0	2.4	3.1	2.5	3.1	3.7	3.7	3.6
Technicians and related support	3.3	2.9	3.0	2.2	3.2	3.7	3.4	3.6
Sales occupations	3.7	2.8	3.2	2.7	2.9	3.6	3.4	3.8
Administrative support, including clerical	2.5	2.0	3.1	2.4	3.2	3.8	3.9	3.5
Service occupations	2.0	1.8	1.9	1.5	1.6	2.1	1.8	2.1
Protective services	1.3	1.9	.5	.6	1.2	.8	.6	2.0
Other service occupations	2.1	1.7	2.2	1.6	1.7	2.3	2.1	2.2
Blue-collar occupations[3]	7.3	5.7	4.7	3.3	4.5	5.3	4.2	3.5
Precision production, craft, and repair	6.2	4.5	3.9	2.7	4.2	5.1	3.4	3.1
Mechanics and repairers	4.8	3.8	2.1	2.1	3.4	3.7	3.3	3.1
Construction trades	5.3	4.0	4.1	2.4	4.2	5.5	2.2	2.4
Other precision production occupations	8.5	5.6	5.5	3.7	5.1	6.4	4.7	3.8
Operators, fabricators, and laborers	8.2	6.7	5.5	3.8	4.8	5.5	5.0	3.8
Machine operators, assemblers, and inspectors	9.6	8.1	5.9	4.5	6.2	6.7	5.5	4.9
Transportation and material-moving occupations	5.7	3.7	4.8	3.1	3.6	4.1	4.1	2.1
Handlers, equipment cleaners, helpers, and laborers	8.0	7.6	5.2	3.0	3.0	4.9	5.4	3.9
Farming, forestry, and fishing	.9	2.1	1.6	.8	1.5	1.4	.8	1.4

[1] Beginning with the 1991–92 period, data are not directly comparable with data from earlier periods, due to differences in estimation methodology.

[2] White-collar occupations are made up of those occupations in the "managerial and professional specialty" and those occupations in the "technical, sales, and administrative support" categories.

[3] Blue-collar occupations are defined as the sum of those occupations in the "precision production, craft, and repair" and those occupations in the "operators, fabricators, and laborers" categories.

NOTE: Displacement rates are calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted, 2-year average estimate of employment for the same worker group. Employment estimates for each year were adjusted, using job-tenure data from the January 1983, 1987, and 1991 and February 1996 and 1998 CPS supplements, to include only those workers with 3 or more years of tenure. A 2-year average was then computed using the adjusted employment estimates.

Table 3. Displacement rates, by tenure on the lost job, 1981–96

[In percent]

Tenure on the lost job	1981–82	1983–84	1985–86	1987–88	1989–90	1991–92[1]	1993–94[1]	1995–96[1]
Total displaced, 20 years and older	5.7	4.1	4.0	3.2	4.3	4.9	4.4	3.9
Less than 3 years	8.9	5.7	5.4	4.7	6.5	6.6	6.5	5.5
3 or more years	3.9	3.1	3.1	2.4	3.1	3.9	3.3	2.9
3 to 4 years	5.8	4.3	4.0	3.5	4.4	5.7	5.0	3.7
5 to 9 years	4.4	3.5	3.6	2.6	3.3	4.3	3.2	3.3
10 or more years	2.6	2.2	2.3	1.7	2.2	2.8	2.5	2.3
10 to 14 years	3.1	2.7	2.6	1.9	2.5	3.0	2.6	2.4
15 to 19 years	2.5	2.1	2.2	1.6	2.5	2.7	2.5	2.5
20 or more years	2.0	1.7	2.1	1.5	1.7	2.7	2.4	2.1

[1] Beginning with the 1991–92 period, data are not directly comparable with data from earlier periods, due to differences in estimation methodology.

NOTE: Displacement rates are calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted, 2-year average estimate of employment for the same worker group. Employment estimates for each year were adjusted, using job-tenure data from the January 1983, 1987, and 1991 and February 1996 and 1998 CPS supplements. A 2-year average was then computed using the adjusted employment estimates.

during 1995–96, still low, though, relative to displacement rates for other industries.

For most of the major occupational groups, job loss was less prevalent during 1995–96 than it had been 2 years earlier. As in past surveys, the displacement rate for white-collar workers (2.9 percent) continued to be lower than that for blue-collar workers (3.5 percent), although the gap has narrowed in recent years.[7] Within the white- and blue-collar occupations, professionals had the lowest risk of being displaced, while machine operators, assemblers, and inspectors had the highest risk. (See table 2.)

Tenure on the lost job. The number of workers displaced (regardless of the number of years on the lost job) during 1995–96 was 4.6 million. One-half of these had been with their employers for a relatively short period of time—less than 3 years.[8] Although a substantial number of workers (amounting to a share of 17 percent) were displaced from jobs they had held for 10 years or more, the *risk* of job loss declined with increasing tenure with the employer, as has been the case in past surveys. (See table 3.)

The following tabulation shows the share of displaced workers and their displacement rates, by tenure on the job they had lost:

Tenure on the lost job	*Percent distribution*	*Displacement rate*
Total	100.0	3.9
Less than 3 years	49.3	5.5
3 or more years	48.3	2.9
3 to 4 years	13.8	3.7
5 to 9 years	17.3	3.3
10 or more years	17.1	2.3
10 to 14 years	7.0	2.4
15 to 19 years	4.5	2.5
20 or more years	5.7	2.1
Tenure not available	2.4	...

The displacement rate was highest (5.5 percent) for workers who had less than 3 years of tenure and lowest (2.1 percent) for those who had been with their employers for 20 years or more. But the disparity in displacement rates seems to have been smaller in 1995–96 than in past years. For example, as table 3 shows, the difference in displacement rates between those with 3 or 4 years of experience with their employer and those with 15 to 19 years was only 1.2 percentage points (3.7 percent, compared with 2.5 percent). During the previous seven surveys, the spread had averaged 2.4 percentage points, with 1.8 percentage points the smallest difference, measured during the 1985–86 period.

The displacement experience

Reason for job loss. Of the 2.2 million workers displaced during 1995–96, one-half cited plant or company closures as the reason they lost their jobs. (See table 4.) Roughly one-fifth reported that they had lost their jobs because of insufficient work, and the remainder (about 3 in 10) said that their position or entire shift had been abolished. These proportions were not much different from those found in the previous survey.

Interestingly, since the late 1980s, the proportion of all job losers who reported that their position or shift was abolished has doubled.[9] The rise in the share of job losers citing this reason is related, in part, to the increase in the proportion of displaced workers holding white-collar jobs—those who are most likely to report that their position or shift was abolished. In the most recent survey, for example, the proportion of displaced white-collar workers who reported that their position or shift was abolished (39 percent) was more than double that of blue-collar workers (17 percent).

Weeks without work In February 1998, displaced workers were asked to estimate the number of weeks they were without work following the loss of their job. The median period for the 1.9 million job losers who had found a new job at some

point was 7.6 weeks, down from 8.3 weeks recorded in the previous survey. In the 1998 survey, displaced workers aged 25 to 34 had the shortest spell without work (4.0 weeks), while those aged 45 to 54 had the longest (11.6 weeks). (See table 5.)

Job losers with more schooling spent considerably less time without work than their counterparts with less education: the median number of weeks that high school dropouts and high school graduates (with no college) spent without work (8.3 and 8.5 weeks, respectively) was nearly twice that of their counterparts with associate and advanced degrees (4.3 weeks). (See table 5.) A study by Paul Swaim and Michael Podgursky also found that workers with more education spend substantially less time finding a new job.[10] Furthermore, these authors' research showed that workers with more education have a greater likelihood of being reemployed full time and are more able to find jobs that pay wages comparable to those they received on their lost jobs.

With regard to industry and occupation, workers displaced from construction and services, industries that exhibited above-average employment growth during 1995–96, spent the shortest period without work (about 4 weeks). By comparison, displaced workers whose last job was in manufacturing, transportation and public utilities, or finance, insurance, and real estate were without work the longest—12 weeks. (See table 6.) With regard to occupation, technicians and related support and professional specialty workers spent the shortest period of time without work (2.5 weeks and 4.6 weeks, respectively). In contrast, the median number of weeks without work was greatest for displaced mechanics and repairers (16.2 weeks) and machine operators, assemblers, and inspectors (14.0 weeks).

Receipt of unemployment insurance. Of the 2.2 million long-tenured workers who lost jobs during 1995–96, about one-half reported receiving unemployment insurance benefits after being displaced. (See table 7.) In contrast, during 1991–92, a period of much poorer labor market conditions, more than three-fifths of the displaced received unemployment insurance.

The reason that some displaced workers do not receive unemployment insurance benefits is that they are able to find jobs very soon after, or even immediately following, displacement. This was especially true during 1995–96, a period of low unemployment and strong job growth. Of the 1.9 million displaced workers who had found a job at some point prior to the February 1998 survey, 44 percent were reemployed in less than 5 weeks.

Loss of health insurance. About 7 in 10 workers displaced during 1995–96 had been included in a group health insurance plan on their lost jobs. (See table 8.) As was the case in past surveys, the likelihood of displaced workers having health insurance in February 1998 greatly depended on their employment status at the time of the survey.[11] Among those reemployed, for example, 84 percent were covered by some form of insurance, either through their new job or through a spouse or other family member. By comparison, in February 1998, 71 percent of displaced workers who had dropped out of the labor force and only 36 percent of those who were unemployed were covered by health insurance.

Among the total displaced, regardless of their employment status when surveyed, roughly 70 percent of both whites and blacks had coverage on their lost jobs, compared with 64 percent of Hispanics. In February 1998, whites who had been displaced were much more likely than blacks or Hispanics to be covered by some source of insurance. The higher coverage rates for whites in the most recent survey are related, in part, to the fact that white displaced workers were much less likely than black or Hispanic job losers to be unemployed in February 1998. Also, white workers were more likely to be in jobs that provided health insurance and were more likely to be covered under other family members' insurance plans.

Table 4. Long-tenured displaced workers who lost jobs in 1995 or 1996, by age, sex, educational attainment, and reason for job loss

Characteristic	Displaced workers (thousands)	Percent distribution		
		Plant or company closed down or moved	Insufficient work	Position or shift abolished
Total, 20 years and older	2,238	50.3	18.6	31.1
20 to 24 years	55	[1]	[1]	[1]
25 to 54 years	1,766	50.9	18.6	30.5
25 to 34 years	477	56.2	20.3	23.5
35 to 44 years	711	45.7	20.0	34.3
45 to 54 years	578	52.8	15.6	31.7
55 years and older	418	47.4	16.7	35.9
55 to 64 years	313	45.7	12.5	41.5
65 years and older	105	52.4	29.5	18.1
Men, 20 years and older	1,176	47.0	23.6	29.3
Women, 20 years and older	1,062	53.9	13.0	33.1
Educational attainment				
Less than a high school diploma	281	60.5	26.3	13.2
High school graduate, no college	752	54.9	19.8	25.3
Some college, no degree	475	46.9	16.6	36.6
Associate's degree	194	54.1	14.4	31.4
Bachelor's degree	376	43.9	15.7	40.4
Advanced degree	160	31.9	16.3	51.9

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

Table 5. Long-tenured displaced workers who found new jobs, by weeks without work, age, sex, educational attainment, and employment status in February 1998

[Numbers in thousands]

Characteristic	Total who found jobs	Weeks without work before finding a job					
		Less than 5 weeks	5 to 14 weeks	15 to 26 weeks	27 to 52 weeks	52 weeks or more	Median weeks without work
Total							
Total, 20 years and older	1,923	854	343	299	295	132	7.6
25 to 54 years	1,598	695	297	254	250	102	7.7
25 to 34 years	439	239	68	70	47	15	4.0
35 to 44 years	635	248	142	94	86	65	8.2
45 to 54 years	525	209	87	91	116	22	11.6
55 years and older	283	127	41	43	45	27	7.9
Employed	1,804	820	322	270	275	117	6.6
Unemployed	51	12	14	18	5	2	(1)
Not in the labor force	69	21	7	12	16	13	(1)
Men							
Men, 20 years and older	1,055	484	171	178	153	69	6.7
Employed	986	464	159	166	142	55	6.2
Unemployed	34	11	9	11	1	2	(1)
Not in the labor force	36	9	3	2	10	12	(1)
Women							
Women, 20 years and older	868	370	172	121	142	63	8.0
Employed	818	356	164	104	133	61	7.7
Unemployed	19	2	5	8	4	0	(1)
Not in the labor force	33	12	4	10	5	2	(1)
Educational attainment							
Less than a high school diploma	221	86	36	47	43	9	8.3
High school graduate, no college	649	256	146	75	125	47	8.5
Some college, no degree	400	188	71	67	43	31	5.8
Associate's degree	166	85	5	27	36	13	4.3
Bachelor's degree	345	165	61	57	38	24	5.9
Advanced degree	141	73	23	27	10	8	4.3

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

After displacement

Employment status. The proportion of displaced workers who were employed when surveyed in February 1998 was 83 percent, up from 79 percent in the February 1996 survey and well above the 75 percent recorded in the February 1994 survey. The share of displaced workers who were unemployed in February 1998 (5 percent) was slightly lower than that recorded in the previous survey (7 percent) and down substantially from the proportion found in the February 1994 survey—11 percent. (See table 9.)

Compared with the earlier survey, the 1995–96 survey found that reemployment rates—the proportion of displaced workers employed at the time of the survey—were higher for all the major demographic groups. The reemployment rate for displaced workers aged 25 to 54 years (89 percent) was much higher than that for workers aged 55 years and older (60 percent), who were much more likely to have left the labor force.

As in past surveys, men were more likely than women to have been reemployed at the time of the survey. The reemployment rate for men displaced from their jobs was 85 percent, compared with 79 percent for women. As with older workers, a large proportion of displaced women—twice that recorded for men—were out of the labor force in February 1998.

Displaced whites, blacks, and Hispanics had about the same likelihood of being reemployed in the most recent survey. (About 4 out of 5 were reemployed.) However, among persons not working, blacks and Hispanics were more than twice as likely as whites to be unemployed in February 1998; whites were more likely to have left the labor force.

Displaced workers with more education fared considerably better than their less educated counterparts following displacement. For example, the reemployment rate for displaced workers aged 25 to 54 years who had at least a bachelor's degree (93 percent) was higher than the rates for both high

school graduates with no college (88 percent) and high school dropouts (84 percent). (See table 9.)

Chart 2 shows reemployment rates since the early 1980s for high school dropouts, high school graduates with no college, and college graduates aged 25 to 54 years. Throughout the period examined, not only were displaced workers with more education more likely to be reemployed when surveyed, but also, they were less prone to cyclical swings in the likelihood of being reemployed.

Besides documenting the cyclical swings in employment outcomes, chart 2 shows that, in 1995–96, the "education gap" in reemployment rates between college graduates and those without a college degree was the smallest since the Displaced Worker Survey was first conducted. This change is largely due to the sharp rise in reemployment rates for those without a college degree over the periods of job loss

Table 6. Long-tenured displaced workers who found new jobs, by weeks without work, industry, class of worker, and occupation of the lost job

[Numbers in thousands]

Characteristic	Total who found jobs	Weeks without work before finding a job					
		Less than 5 weeks	5 to 14 weeks	15 to 26 weeks	27 to 52 weeks	52 weeks or more	Median weeks without work
Total, 20 years and older	1,923	854	343	299	295	132	7.6
Industry and class of worker							
Nonagricultural private wage and salary workers	1,717	725	320	278	271	123	8.1
Mining	18	7	8	3	0	0	(1)
Construction	95	52	18	7	15	3	4.2
Manufacturing	587	217	102	104	103	61	12.0
Durable goods	325	128	47	54	71	25	12.0
Nondurable goods	262	89	55	50	33	35	11.9
Transportation and public utilities	141	54	24	23	33	7	11.9
Wholesale trade	84	27	25	18	8	6	9.8
Retail trade	315	133	75	54	37	16	7.7
Finance, insurance, and real estate	219	50	24	15	28	12	11.8
Services	347	185	43	54	47	18	4.1
Private households	10	4	3	3	0	0	(1)
Other service industries	337	181	40	51	47	18	4.0
Professional services	199	109	24	26	25	15	3.8
Agricultural wage and salary workers	18	12	3	0	3	0	(1)
Government workers	172	105	19	21	18	9	2.8
Occupation							
Managerial and professional specialty	511	253	82	78	58	40	4.8
Executive, administrative, and managerial	291	142	53	42	27	27	5.1
Professional specialty	223	111	30	37	32	13	4.6
Technical, sales, and administrative support	667	288	136	89	92	62	7.7
Technicians and related support	83	41	14	6	12	10	2.5
Sales occupations	253	112	53	37	37	14	7.8
Administrative support, including clerical	333	135	69	46	44	39	7.7
Service occupations	132	48	25	31	28	0	12.3
Protective services	25	11	6	1	7	0	(1)
Other service occupations	107	37	19	30	21	0	12.8
Precision production, craft, and repair	251	119	37	45	42	8	5.9
Mechanics and repairers	86	32	5	19	22	8	16.2
Construction trades	64	40	10	7	7	0	(1)
Other precision production occupations	102	47	22	20	13	0	6.0
Operators, fabricators, and laborers	315	118	58	47	70	22	11.3
Machine operators, assemblers, and inspectors	182	57	35	36	37	17	14.0
Transportation and material-moving occupations	64	30	12	5	17	0	(1)
Handlers, equipment cleaners, helpers, and laborers	69	31	11	6	16	5	(1)
Farming, forestry, and fishing	31	22	3	3	3	0	(1)

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

measured by the 1996 and 1998 surveys.

Moving to another area. Very few displaced workers (less than 1 in 10) moved to other areas to look for work or take another job. Those who had moved, however, were more likely than those who had not to be reemployed at the time of the survey, by a ratio of 92 percent to 82 percent. (See table 10.) Not surprisingly, older displaced workers were less likely than their younger counterparts to move. The proportion of workers aged 25 to 54 years who had relocated (9 percent) was nearly double that of workers aged 55 and older who had done so.

The new jobs

Switching industries and occupations. A large number of displaced workers who found new jobs in February 1998 were employed in industries that differed from the ones in which they were previously employed. Slightly more than one-half of the 1.6 million reemployed workers who lost private nonagricultural wage and salary jobs were employed in a different major industry at the time of the survey. (See table 11.) The proportions that found jobs in the same broad industry varied considerably. For example, nearly 7 in 10 workers displaced from the services industry were reemployed in that industry in February 1998. In contrast, the proportions reemployed in the same industry sector were much lower for those displaced from nondurable goods manufacturing (33 percent) and wholesale trade (17 percent). Research conducted by Ann Huff Stevens and other work carried out by William Carrington have shown that displaced workers who find new jobs in a different industry experience more severe earnings losses than their counterparts reemployed in the same industry.[12]

Over the 1995–96 period, nearly three-fifths of the increase of 4.8 million in private nonagricultural employment was in services industry jobs.[13] Because the industry was expanding at such a rapid pace during that period, a large share of displaced workers who changed industries took jobs in services. For example, of the 534,000 reemployed manufacturing workers, one-fourth were employed in the services industry at the time of the survey. The proportions of displaced workers who had taken jobs in the services industry were even higher for those displaced from retail trade (27 percent), transportation and public utilities (32 percent), and finance, insurance, and real estate (33 percent).

Displaced workers who had found new jobs were less likely to change occupations than to change industries. Of the job losers who were reemployed in February 1998, 60 percent were working in the same broad occupational group. Workers displaced from professional specialty occupations had the largest proportion (71 percent) returning to the same broad occupation, while workers in the category of technicians and related support, as well as operators, fabricators, and laborers, had the smallest—45 percent. (See table 12.) Stevens and Carrington also found that, similar to displaced workers who switch industries, those who change occupations suffer larger reductions in earnings than their counterparts reemployed in the same occupation.[14]

Of the 1.7 million workers displaced from white- and blue-collar jobs who were reemployed in February 1998, 6 percent had moved into service occupations, jobs that generally pay the lowest and offer the fewest employee benefits.[15] The proportion of workers who had taken service jobs was highest (11 percent) for those displaced from operator, fabricator, and laborer occupations and lowest for those who had lost professional specialty jobs (2 percent).

Earnings on new jobs. Virtually all of the 2.2 million workers displaced during the 1995–96 period lost full-time wage and salary jobs. At the time of the 1998 survey, two-thirds of those displaced workers were again employed in full-time wage and salary jobs, slightly higher than the proportion recorded in the previous survey. Nine percent of those who lost full-time wage and salary jobs during 1995–96 were holding part-time jobs when they were surveyed, and another 6 percent were self-employed. The remainder either were unemployed or had dropped out of the labor force.

Table 7. Long-tenured displaced workers, by receipt or exhaustion of unemployment insurance benefits and employment status in February 1998

Characterisic	Displaced workers	
	Number (thousands)	Percent
Total, 20 years and older	2,238	100.0
Received benefits[1]	1,142	51.0
Exhausted benefits	619	27.7
Did not receive benefits	1,078	48.2
Employed	1,846	100.0
Received benefits[1]	911	49.3
Exhausted benefits	448	24.3
Did not receive benefits	928	50.3
Unemployed	114	100.0
Received benefits[1]	74	64.9
Exhausted benefits	43	37.7
Did not receive benefits	33	28.9
Not in the labor force	278	100.0
Received benefits[1]	157	56.5
Exhausted benefits	128	46.0
Did not receive benefits	117	42.1

[1] Data on receipt of unemployment insurance benefits will not sum to totals or 100 percent because a small number of workers did not report whether they received benefits.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

In a recent paper, Farber, using the longitudinal capability of the CPS, matched data from the February 1994 and 1996 Displaced Worker Surveys to data from the Contingent and Alternative Work Arrangements Survey conducted in subsequent years (February 1995 and 1997, respectively).[16] Farber found that displaced workers were more likely than nondisplaced workers to hold temporary jobs and were more likely to be employed part time involuntarily. He contends that these alternative employment arrangements often assist workers in their transition into "regular" full-time permanent employment.

Compared with the two previous surveys, the 1998 survey showed earnings losses to be much less severe. (Data on earnings are restricted to median weekly earnings on full-time wage and salary jobs.) Among workers displaced from full-time wage and salary jobs during 1995–96, median weekly earnings on the lost job were $558; at the time of the survey, the median was not much different—$535—a decrease of only 4 percent.[17] In contrast, the percent change in median weekly earnings on the lost job and the job held at the time of the survey was 15 percent in both the 1996 and 1994 surveys. (See table 13.)

Less than half of those displaced from full-time wage and salary jobs during 1995–96 and who were reemployed in such jobs in February 1998 were earning less than they had previously; about one-fourth suffered earnings losses of 20 or more percent. The largest difference between the 1995–96 period and the preceding 2 years was the decline in the share of reemployed workers who had experienced a 20-percent or greater pay loss. (See table 13.)

The most recent survey showed that the decrease in earnings was greatest for those aged 45 to 54 years and 55 to 64 years; both age groups experienced earnings losses averaging 12 percent. (See table 14.) Declines in earnings following

Table 8. Long-tenured displaced workers, by incidence of group health insurance coverage on lost and current job and by sex, race, Hispanic origin, and employment status in February 1998

[Numbers in thousands]

Characteristic	Total	Covered by a group health insurance plan on lost job[1]			
		Total[2]	Percent covered by any group health insurance plan in February 1998[2]		Not covered on lost job
			Yes	No	
Total, 20 years and older	2,238	1,600	80.3	19.5	632
Employed	1,846	1,358	83.9	15.8	485
Unemployed	114	76	35.5	64.5	38
Not in the labor force	278	166	70.5	28.9	110
Men, 20 years and older	1,176	892	79.9	19.6	278
Employed	1,003	778	83.4	16.1	222
Unemployed	74	44	[3]	[3]	30
Not in the labor force	99	70	[3]	[3]	26
Women, 20 years and older	1,062	708	80.6	19.4	355
Employed	843	580	84.5	15.5	263
Unemployed	40	32	[3]	[3]	8
Not in the labor force	179	96	76.0	22.9	84
White					
Total, 20 years and older	1,926	1,374	82.3	17.5	552
Men	1,016	777	82.2	17.4	239
Women	910	597	82.4	17.6	313
Black					
Total, 20 years and older	217	159	62.9	37.1	55
Men	101	71	[3]	[3]	27
Women	116	88	70.5	29.5	28
Hispanic origin					
Total, 20 years and older	246	157	59.9	40.1	88
Men	122	72	[3]	[3]	50
Women	124	85	63.5	36.5	39

[1] Health insurance coverage excludes medicare and medicaid.

[2] Details will not sum to totals or 100 percent because a small number of respondents did not know about their coverage on their past or current job. Moreover, details for the race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

[3] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

Table 9. Long-tenured displaced workers, by age, sex, race, Hispanic origin, educational attainment, and employment status in February 1998

[Numbers in thousands]

Characteristic	Displaced workers	Percent distribution, by employment status, in February 1998		
		Employed	Unemployed	Not in the labor force
Total, 20 years and older	2,238	82.5	5.1	12.4
20 to 24 years	55	[1]	[1]	[1]
25 to 54 years	1,766	88.5	4.1	7.5
25 to 34 years	477	89.0	2.5	8.6
35 to 44 years	711	89.1	4.2	6.7
45 to 54 years	578	87.2	5.3	7.5
55 years and older	418	59.5	7.1	33.4
55 to 64 years	313	63.6	7.7	28.8
65 years and older	105	47.2	5.5	47.3
Men, 20 years and older	1,176	85.3	6.3	8.4
Women, 20 years and older	1,062	79.4	3.8	16.9
White				
Total, 20 years and older	1,926	82.6	4.5	12.8
Men	1,016	86.1	5.7	8.2
Women	910	78.7	3.2	18.0
Black				
Total, 20 years and older	217	81.0	11.4	7.5
Men	101	78.3	14.9	6.8
Women	116	83.4	8.4	8.2
Hispanic				
Total, 20 years and older	246	80.7	10.2	9.0
Men	122	91.3	5.5	3.3
Women	124	70.4	14.9	14.7
Educational attainment				
Total, 25 to 54 years	1,766	88.5	4.1	7.5
Less than a high school diploma	203	84.2	8.9	6.9
High school graduate, no college	581	88.1	5.9	6.0
Some college, no degree	376	86.7	3.2	10.1
Associate's degree	168	86.9	1.8	11.3
Bachelor's degree	322	92.5	1.6	5.9
Advanced degree	116	94.0	.9	5.1

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

job loss were the same for men and women and were less severe than those measured in the 1996 survey. Earnings losses in the 1998 survey were larger for blacks (10 percent) than they were for whites (4 percent). For Hispanics, earnings on the new job were little different from earnings on the job they had lost.

Not only had displaced workers who were more educated earned more than their less educated counterparts on their predisplacement jobs, but they also experienced much smaller earnings losses. For example, in terms of the *range* of earnings losses, nearly three-fifths of high school dropouts were earning less on their new jobs than they had prior to displacement. By comparison, about two-fifths of college graduates were earning less than they had previously. Furthermore, more than one-third of high school dropouts suffered earnings losses of 20 or more percent in contrast to one-fifth of those with college degrees. (See table 14.)

Compared with the previous survey, the 1998 survey found that workers displaced during 1995–96 from full-time wage and salary jobs who were reemployed in such jobs in February 1998 experienced less severe earnings losses in virtually every major industry sector. (See table 15.) Workers who had lost jobs in nondurable goods manufacturing had the largest share experiencing earnings losses of 20 percent or more (44 percent). On a happier note, workers displaced from jobs in professional services had the largest proportion (45 percent)

Table 10. Long-tenured displaced workers, by sex, age, and whether they moved to a different city or county to find or take another job, February 1998

[Numbers in thousands]

Age and sex	Nonmovers			Movers		
	Total	Employed in February 1998	Percent	Total	Employed in February 1998	Percent
Total						
Total, 20 years and older	2,039	1,663	81.6	199	183	92.0
25 to 54 years	1,600	1,406	87.9	166	157	94.6
55 years and older	397	231	58.2	21	18	(1)
Men						
Total, 20 years and older	1,057	891	84.3	119	112	94.1
25 to 54 years	810	740	91.4	105	100	95.2
55 years and older	228	144	63.2	14	12	(1)
Women						
Total, 20 years and older	983	772	78.5	80	71	88.8
25 to 54 years	789	666	84.4	61	56	(1)
55 years and older	168	88	52.4	7	6	(1)

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

Table 11. Displaced workers, by industry of lost job and percent reemployed in the same industry or in the services industry, February 1998

[Numbers in thousands]

Industry of lost job	Total	Total reemployed	Percent in the same industry	Percent in the services industry
Total, nonagricultural private wage and salary workers	1,998	1,640	47.9	34.1
Mining	18	16	(1)	(1)
Construction	103	92	53.3	4.3
Manufacturing	687	534	45.9	24.7
Durable goods	362	312	42.0	18.9
Nondurable goods	325	221	33.0	33.0
Transportation and public utilities	165	142	32.4	31.7
Wholesale trade	98	79	16.5	22.8
Retail trade	372	308	45.8	26.7
Finance, insurance, and real estate	151	126	41.3	32.5
Services	403	344	68.3	68.3

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed down or moved, there was insufficient work for them to do, or their position or shift was abolished.

earning 20 percent or *more* on their new jobs than on the old ones.

Regions

As the job market strengthened during 1995–96, the likelihood of displacement fell in every census region of the United States.[18] As in the previous survey, the probability of displacement was greatest in the Northeast and West and lowest in the Midwest and South. Among the nine geographic divisions, displacement rates were lowest in two areas of the South (the East South Central and the West South Central divisions, at 2.1 percent each) and highest in the West (the Mountain and Pacific divisions, at 3.4 percent and 3.6 percent, respectively). (See table 16.)

Compared with their situation 2 years earlier, workers displaced in the West region in 1995–96 were far more likely to find work. During 1993–94, their reemployment rate, 76.3 percent, was below the national average, but during 1995–96, their 85.0-percent rate was above the national average. Displaced workers in the South also saw their reemployment rates rise. The reemployment rate was highest in the West North Central (90.6 percent) and West South Central (86.7 percent) divisions. By comparison, the probability of finding

Table 12. Displaced workers, by occupation of lost job and percent reemployed in the same occupation or in service occupations, February 1998

[Numbers in thousands]

Occupation of lost job	Total	Total reemployed	Percent in the same occupation	Percent in service occupations
Total, 20 years and older	2,238	1,846	60.0	9.3
White-collar occupations[1]	1,355	1,158	66.3	4.5
Managerial and professional specialty	572	508	67.3	3.3
Executive, administrative, and managerial	329	286	47.2	4.5
Professional specialty	244	222	70.7	1.8
Technical, sales, and administrative support	783	650	65.5	5.4
Technicians and related support	91	85	44.7	3.5
Sales occupations	303	244	46.7	2.9
Administrative support, including clerical	389	321	58.9	7.5
Service occupations	169	126	54.8	54.8
Blue-collar occupations[2]	663	517	48.4	9.3
Precision production, craft, and repair	276	248	51.6	7.3
Operators, fabricators, and laborers	387	269	45.4	11.2
Farming, forestry, and fishing	33	30	[3]	[3]

[1] White-collar occupations are made up of those occupations in the "managerial and professional specialty" and those occupations in the "technical, sales, and administrative support" categories.

[2] Blue-collar occupations are defined as the sum of those occupations in the "precision production, craft, and repair" and those occupations in the "operators, fabricators, and laborers" categories.

[3] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed down or moved, there was insufficient work for them to do, or their position or shift was abolished.

Table 13. Median weekly earnings of long-tenured displaced full-time wage and salary workers[1] on their lost jobs and on jobs held at the time of the survey

[Numbers in thousands]

Survey date, and reference period for job loss	Displaced full-time wage and salary workers	Part time	Reemployed in full-time wage and salary job									Self-employed and unpaid family workers	Unemployed	Not in the labor force
			Total[1]	Total who reported earnings	Earnings relative to those of lost job				Median weekly earnings on—					
					20 or more percent below	Below, but within 20 percent	Equal or above, but within 20 percent	20 or more percent above	Lost job	Job held at time of survey	Percent change			
January:														
1984, 1981–82	2,157	151	1,135	1,023	33.7	17.5	27.0	21.8	$340	$293	–13.8	114	446	309
1986, 1983–84	1,798	122	1,087	1,086	26.5	13.9	27.1	32.5	329	330	.3	90	233	266
1988, 1985–86	1,855	111	1,187	1,105	32.9	14.8	29.3	23.0	412	353	–14.3	143	179	235
1990, 1987–88	1,464	83	995	878	27.2	18.8	25.1	28.9	416	391	–6.0	92	115	179
1992, 1989–90	2,011	131	1,201	1,088	31.1	17.1	28.1	23.7	439	410	–6.6	149	275	252
February:														
1994, 1991–92	2,563	201	1,536	1,386	34.4	17.8	28.4	19.4	553	473	–14.5	210	295	322
1996, 1993–94	2,167	143	1,396	1,245	33.7	19.8	25.2	21.3	539	461	–14.5	184	156	288
1998, 1995–96	2,011	188	1,358	1,192	26.1	19.3	30.2	24.4	558	535	–4.1	122	104	240

[1] Data include some workers who did not report earnings.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

a new job was lowest in the Middle Atlantic division: only 71.6 percent of displaced workers there were reemployed at the time of the survey.

AS THE ECONOMY CONTINUED TO GROW over the 1995–96 period, the number of displaced workers declined. During that period, 2.2 million long-tenured workers, or 2.9 percent of all workers who had been with their employers for 3 or more years, were displaced from their jobs. By comparison, 3.3 percent of all long-tenured workers were displaced during 1993–94, also a period of rising employment. Not only were long-tenured workers less likely to lose their jobs in the 1995–

Table 14. Median weekly earnings of long-tenured displaced full-time wage and salary workers on their lost jobs and on jobs held in February 1998, by age, sex, race, Hispanic origin, and educational attainment

[Numbers in thousands]

Characteristic	Displaced full-time wage and salary workers	Part time	Reemployed in full-time wage and salary job in February 1998								Self-employed and unpaid family workers	Unemployed	Not in the labor force
			Total[1]	Total who reported earnings	Earnings relative to those of lost job				Median weekly earnings on—				
					20 or more percent below	Below, but within 20 percent	Equal or above, but within 20 percent	20 or more percent above	Lost job	Job held in February 1998	Percent change		
Total													
Total, 20 years and older	2,011	188	1,358	1,192	26.1	19.3	30.2	24.4	$558	$535	–4.1	122	104	240
20 to 24 years	40	0	24	13	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0	9	7
25 to 54 years	1,618	144	1,187	1,054	24.3	19.3	30.9	25.5	549	537	–2.2	101	68	119
25 to 34 years	445	48	332	285	24.6	17.9	24.2	33.3	457	482	5.5	14	12	39
35 to 44 years	653	58	489	445	23.8	18.9	34.4	22.9	565	568	.5	36	28	42
45 to 54 years	520	38	366	326	24.5	21.2	32.2	22.1	626	553	–11.7	50	28	38
55 to 64 years	270	26	129	110	38.2	24.5	26.4	10.9	712	630	–11.5	16	24	75
65 years and older	82	18	17	14	[2]	[2]	[2]	[2]	[2]	[2]	[2]	5	3	39
Men, 20 years and older	1,111	52	814	718	26.5	18.4	34.1	21.0	608	588	–3.3	83	68	93
Women, 20 years and older	901	136	544	474	25.5	20.7	24.3	29.5	487	471	–3.3	38	36	147
White														
Total, 20 years and older	1,712	151	1,164	1,033	25.0	19.8	31.0	24.2	579	556	–4.0	111	77	209
Men	951	41	704	625	27.0	17.6	34.9	20.5	644	616	–4.3	76	52	77
Women	761	110	460	407	21.9	23.3	25.1	29.7	496	484	–2.4	35	25	132
Black														
Total, 20 years and older	205	32	131	106	36.8	11.3	22.6	29.2	431	389	–9.7	1	25	16
Men	101	8	71	64	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0	15	7
Women	104	24	60	43	[2]	[2]	[2]	[2]	[2]	[2]	[2]	1	10	9
Hispanic origin														
Total, 20 years and older	227	18	160	144	19.4	27.1	33.3	20.1	376	381	1.3	6	23	20
Men	112	0	95	89	18.0	16.9	39.3	25.8	344	384	11.6	6	7	4
Women	115	18	64	55	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0	16	16
Educational attainment														
Less than a high school diploma	242	25	146	139	34.5	22.3	17.3	25.9	390	368	–5.6	5	25	41
High school graduate, no college	686	67	457	403	27.8	19.4	32.0	20.8	494	458	–7.3	29	47	85
Some college, no degree	432	42	293	249	26.5	18.9	26.9	27.7	544	525	–3.5	25	18	54
Associate's degree	169	13	115	86	25.6	17.4	33.7	23.3	558	588	5.4	9	3	27
Bachelor's degree	342	21	256	239	18.4	19.7	38.1	23.8	839	800	–4.6	38	5	22
Advanced degree	140	19	91	79	25.3	16.5	26.6	31.6	925	1,033	11.7	14	5	10

[1] Includes 166,000 who did not report earnings on their lost job.
[2] Data not shown where base is less than 75,000.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

96 period, but those who did were more likely to find new jobs, and they spent fewer weeks without work. Moreover, among those reemployed in full-time jobs, earnings losses were much less severe than those found in the previous survey period.

The 1998 data also show that workers with more education had a lower probability of being displaced than their less educated counterparts. Furthermore, displaced workers with more schooling were more likely than those with less education to be reemployed, spent fewer weeks without work, and suffered less severe earnings losses.

Table 15. Median weekly earnings of long-tenured displaced full-time wage and salary workers on their lost jobs and on jobs held in February 1998, by industry and class of worker of lost job

[Numbers in thousands]

Industry and class of worker of lost job	Displaced full-time wage and salary workers	Part time	Reemployed in full-time wage and salary job in February 1998						Median weekly earnings on—			Self-employed and unpaid family workers	Unemployed	Not in the labor force
			Total[1]	Earnings relative to those of lost job										
				Total who reported earings	20 or more percent below	Below, but within 20 percent	Equal or above, but within 20 percent	20 or more percent above	Lost job	Job held in February 1998	Percent change			
Total, 20 years and older ..	2,011	188	1,358	1,192	26.1	19.3	30.2	24.4	$558	$535	–4.1	122	104	240
Nonagricultural private wage and salary workers	1,810	168	1,209	1,060	27.3	18.9	30.2	23.7	554	525	–5.2	121	94	218
Mining	18	0	11	8	[2]	[2]	[2]	[2]	[2]	[2]	[2]	5	3	0
Construction	85	8	67	58	[2]	[2]	[2]	[2]	[2]	[2]	[2]	3	6	1
Manufacturing	674	71	427	367	34.9	13.9	31.3	19.9	556	505	–9.2	25	45	106
Durable goods	354	40	254	220	28.6	17.7	34.1	19.5	571	518	–9.3	11	14	36
Nondurable goods	320	31	173	147	44.2	7.5	27.9	20.4	538	474	–11.9	14	31	71
Transportation and public utilities	144	13	104	95	37.9	22.1	21.1	18.9	715	652	–8.8	7	6	14
Transportation	76	2	58	51	[2]	[2]	[2]	[2]	[2]	[2]	[2]	4	4	7
Communications and other public utilities	69	11	46	43	[2]	[2]	[2]	[2]	[2]	[2]	[2]	2	3	7
Wholesale and retail trade .	419	40	272	244	25.0	20.5	25.4	29.1	447	455	1.8	37	11	58
Wholesale trade	98	8	67	60	[2]	[2]	[2]	[2]	[2]	[2]	[2]	3	4	16
Retail trade	320	32	205	184	25.5	19.0	22.3	33.2	410	424	3.4	34	8	42
Finance, insurance, and real estate	140	15	97	89	30.3	24.7	29.2	15.7	556	500	–10.1	6	11	11
Services	326	20	228	196	10.7	20.9	32.1	36.2	587	584	–.5	39	12	28
Professional services	179	20	121	106	8.5	18.9	27.4	45.3	552	588	6.5	21	2	15
Other services	137	0	98	79	13.9	22.8	40.5	22.8	693	611	–11.8	18	9	13
Agricultural wage and salary . workers	15	0	12	11	[2]	[2]	[2]	[2]	[2]	[2]	[2]	0	1	2
Government workers	173	20	127	117	16.2	18.8	35.0	29.9	613	642	4.7	0	6	19

[1] Includes 166,000 who did not report earnings on their lost job.
[2] Data not shown where base is less than 75,000.
NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

Notes

[1] Data on job growth refer to nonfarm payroll employment and are derived from the Current Employment Statistics survey, a monthly survey that collects information on payroll employment, hours, and earnings from about 390,000 nonfarm business establishments. The unemployment rate is derived from the Current Population Survey (CPS), a monthly sample survey of about 50,000 households that provides information on demographic characteristics of the labor force and the employment status of the noninstitutional population aged 16 years and older.

[2] The count of displaced workers includes, in addition to those who lost jobs, workers who left jobs in *anticipation* of losing them. Debriefing data collected as part of quality assessment research conducted on the February 1998 Displaced Worker Survey indicate that 79 percent of the displaced were job losers and 19 percent were job leavers. (One percent said they had retired.) Thus, the group referred to as job losers includes some workers who left or retired from their jobs prior to losing them.

[3] Displacement rates are calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted 2-year average estimate of employment for the same group. Employment estimates for each year were adjusted, using job-tenure data from the January 1983, 1987, and 1991 and February 1996 and 1998 CPS supplements, to include only those workers with 3 or more years of tenure. A 2-year average was then computed by means of the adjusted employment estimates.

[4] See Robert W. Fairlie and Lori G. Kletzer, "Jobs Lost, Jobs Regained: An Analysis of Black/White Differences in Job Displacement in the 1980s," *Industrial Relations*, October 1998, pp. 460–75.

[5] For the same reasons, black men who were displaced were much less likely than displaced white men to be reemployed at the time of the survey.

[6] See Henry S. Farber, "The Changing Face of Job Loss in the United States, 1981–95," *Brookings Papers on Economic Activity: Microeconomics* (Washington, DC, Brookings Institution, 1997); and Daniel Aaronson and Daniel G. Sullivan, "Recent trends in job displacement," *Chicago Fed Letter* (Chicago, Federal Reserve Bank, December 1998).

[7] For the purposes of this analysis, blue-collar occupations are defined as the sum of the occupations in the "precision production, craft, and repair" category and the occupations in the "operators, fabricators, and laborers" category. White-collar occupations are made

Table 16. Reemployment rates and displacement rates of long-tenured displaced workers, by census region and division, 1993–94 and 1995–96

[Numbers in thousands]

Census designation	1993–94			1995–96		
	Displaced workers	Reemployment rate[1]	Displacement rate[2]	Displaced workers	Reemployment rate[1]	Displacement rate[2]
Total, 20 years and older	2,445	78.5	3.3	2,238	82.5	2.9
Northeast	541	75.0	3.5	482	73.9	3.1
New England	164	78.0	3.9	123	80.5	3.0
Middle Atlantic	377	73.7	3.3	359	71.6	3.1
Midwest	596	81.5	3.2	554	84.3	2.9
East North Central	418	79.7	3.2	405	82.0	3.0
West North Central	178	86.0	3.2	149	90.6	2.6
South	734	80.1	2.9	656	84.9	2.5
South Atlantic	378	79.1	2.9	395	85.3	2.9
East South Central	141	85.1	3.2	95	80.0	2.1
West South Cental	215	78.6	2.9	166	86.7	2.1
West	575	76.3	3.8	547	85.0	3.5
Mountain	133	75.2	3.5	142	84.5	3.4
Pacific	442	76.7	3.9	405	85.2	3.6

[1] Reemployment rates are calculated by dividing the number of displaced workers in a specified worker group who were reemployed at the time of the survey by the total number displaced in the same worker group.

[2] Displacement rates are calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted, 2-year average estimate of employment for the same worker group. Employment estimates for each year were adjusted, using job tenure data from the January 1983, 1987, and 1991 and February 1996 and 1998 CPS supplements, to include only those workers with 3 or more years of tenure . A 2-year average was then computed using the adjusted employment estimates.

NOTE: Data refer to persons who had 3 or more years of tenure on a job they had lost or left between January 1993 and December 1994 or between January 1995 and December 1996 because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.

up of occupations in the "managerial and professional specialty" category and occupations in the "technical, sales, and administrative support" category.

[8] The characteristics of short-tenured displaced workers differ markedly from those who lost jobs they had held for 3 years or more. Short-tenured employees were more likely to be younger, to be less educated, and to have been displaced from part-time jobs. They also were less likely than long-tenured displaced workers to have lost managerial and professional jobs and were more likely to have lost service and laborer jobs. In terms of industry, displaced workers with short tenure were more likely to have lost jobs in the construction, wholesale and retail trade, and services industries. In addition, the risk of displacement is much higher for those with short tenure. For example, during 1995–96, the displacement rate for short-tenured workers (5.5 percent) was nearly double that for long-tenured workers (2.9 percent). This relationship held for most demographic characteristics and for many industry and occupation categories.

[9] Farber found that many of those accounting for the rise in the proportion of job losers reporting that their position or shift was abolished were more educated workers (who predominate in the white-collar category). Although he concedes that workers' reports of the cause of their displacement may be somewhat arbitrary, Farber states that "the term 'position abolished' resonates with the well-publicized round of corporate downsizing and restructuring of the past several years." (See Farber, "Changing Face of Job Loss," p. 56.)

[10] See Paul Swaim and Michael Podgursky, "Do more-educated workers fare better following displacement?" *Monthly Labor Review*, August 1989, pp. 43–46.

[11] In the survey, the question concerning health insurance on the lost job specifically relates to coverage from the former employer and excludes any other sources. The question about current coverage refers to coverage from *any* source.

[12] See Ann Huff Stevens, "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses," *Journal of Labor Economics*, January 1997, pp. 165–88; and William Carrington, "Wage Losses for Displaced Workers: Is It Really the Firm that Matters?" *Journal of Human Resources*, Summer 1993, pp. 493–96. Another recent study focused on local labor markets and found that workers displaced from industries that make up a smaller proportion of the local workforce are more likely to switch industries following the loss of a job. Moreover, for many workers, being displaced from an industry with a smaller share of the local workforce is associated with more severe earnings losses. See Wendy A. Stock, "Local Industry Employment Share and Experiences of Displaced Workers," *Industrial Relations*, October 1998, pp. 478–98.

[13] The pace of job growth in the services industry (8.4 percent) during 1995–96 was nearly twice that of all private nonagricultural industries (4.9 percent). For a comprehensive overview of jobs in the services industry, see Joseph R. Meisenheimer II, "The services industry in the 'good' versus 'bad' jobs debate," *Monthly Labor Review*, February 1998, pp. 22–47.

[14] See Stevens, "Persistent Effects of Job Displacement"; and Carrington, "Wage Losses for Displaced Workers."

[15] Unlike the services industry, which includes a wide range of high- and low-paying jobs, service occupations tend to be concentrated at the lower end of the earnings spectrum. For example, among full-time workers in 1995, median weekly earnings for those with service jobs were $299, compared with $479 for all workers. With regard to benefits, in 1995, 35 percent of workers in service occupations had health insurance from their employer, and 26 percent had an employer-provided pension. In contrast, for all workers in 1995, employer-provided health insurance and pension coverage rates were 60 percent and 48 percent, respectively.

[16] See Henry S. Farber, "Alternative and Part-time Employment Arrangements as a Response to Job Loss," Working Paper 7002 (National Bureau of Economic Research, March 1999).

[17] Note that decreases are somewhat understated and increases overstated, because the earnings data are not adjusted for inflation.

[18] The four census regions of the United States are the Northeast, South, Midwest, and West. Within the Northeast, the New England division comprises Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; and the Middle Atlantic division takes in New Jersey, New York, and Pennsylvania. Within the South, the South Atlantic division encompasses Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; the East South Central division comprises Alabama, Kentucky, Mississippi, and Tennessee; and the West South Central division embraces Arkansas, Louisiana, Oklahoma, and Texas. Within the Midwest, the East North Central division comprises Illinois, Indiana, Michigan, Ohio, and Wisconsin; and the West North Central division encompasses Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Within the West, the Mountain division takes in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and the Pacific division comprises Alaska, California, Hawaii, Oregon, and Washington.

Appendix: Scope and method of the study

The data presented in this article were collected through a supplement to the February 1998 Current Population Survey (CPS), a monthly survey of about 50,000 households that provides basic data on employment and unemployment in the Nation. The purpose of this supplement was to obtain information on the number and characteristics of persons who had been displaced from their jobs over the previous 3 calendar years.

The first question asked of survey respondents aged 20 and older was, "During the last 3 calendar years, that is, January 1995 through December 1997, did (you/name) lose or leave a job because a plant or company closed or moved, (your/his/her) position or shift was abolished, insufficient work, or another similar reason?" If the answer to that question was "yes," then the respondent was asked to identify which among the following statements best described the reason for the job loss:

Plant or company closed down or moved
Plant or company operating but lost job because of:
  Insufficient work
  Position or shift abolished
  Seasonal job completed
Self-operated business failed
Some other reason.

Respondents who specified one of the first three reasons—that their plant or company closed or moved, that they had insufficient work, or that their position or shift was abolished—were classified as displaced and were asked to provide additional information about the lost job, including how many years they had worked for their employer; the year the job was lost; the earnings, industry, and occupation of the lost job; and whether health insurance had been provided. Other questions were asked to determine what occurred before and after the job loss: Was the respondent notified of the upcoming dismissal? How long did he or she go without work? Did the respondent receive unemployment benefits? If so, were the benefits used up? And did the person move to another location after the job loss, to take or look for another job? Information also was collected about current health insurance coverage (other than medicare and medicaid) and current earnings for those employed in February 1998. Most of the data presented in the article refer to workers who lost or left jobs they had worked at for 3 or more years.

In counting displaced workers, there are several important differences between the February 1994, 1996, and 1998 surveys, on the one hand, and surveys conducted every other January from 1984 to 1992, on the other, that render the data not strictly comparable:

1. In January 1994, a redesigned survey questionnaire and a new collection methodology were implemented in the CPS.[1]

2. The reference period used in questions about displacement was shortened from "the prior 5 years" in earlier surveys to "the prior 3 calendar years" in surveys conducted since February 1994. This change was made because the reliability of the data appears to decrease as the length of the reference period increases. For example, in the January 1992 survey, the number of displacements in the first 2 years covered by the survey—that is, 1987 and 1988—were markedly lower than when those 2 years were the third and fourth years of the reference period in the January 1990 survey, a clear indication of recall problems in the years farthest from the survey date.

3. The article also excludes displacements that occurred in the year closest to the survey date. This approach was taken to reduce the likelihood of including persons who, having lost their jobs relatively recently, would otherwise have been counted as displaced even though their job losses eventually proved to be temporary rather than permanent.

4. Displaced workers who cited one of the reasons listed for losing their job and then responded later in the questionnaire that their "class of worker" on the lost job was "self-employed" were excluded from the count of displaced workers in surveys conducted since 1994, whereas they had been included in previous ones.

5. In surveys conducted since February 1994, respondents who reported that they had lost their jobs in the year closest to the survey date (for example, 1997 in the February 1998 survey) and expected to be recalled within the next 6 months were left out of the count of displaced workers. In earlier surveys, respondents were not directly asked about their expectations regarding being recalled.

6. Since 1994, Displaced Worker Surveys have been conducted in February, whereas the previous five surveys were conducted in January. In 1994, the survey was postponed 1 month to help ease the transition into the redesigned survey and collection methodology that occurred in January of that year. Also, the reference periods in the 1994, 1996, and 1998 surveys were the previous 3 calendar years—for example, 1995, 1996, and 1997 in the February 1998 survey. Before the 1994 survey, those losing jobs in the month of January prior to the survey were counted as displaced.

7. Displaced-worker surveys conducted prior to February 1994 are not completely comparable to those from 1994 forward, because the earlier surveys were not adjusted to take account of those who did not respond to the supplementary survey. (This type of nonresponse was much lower in Displaced Worker Surveys conducted prior to 1996.) A proportion of the people who complete the basic CPS questionnaire on labor force status do not provide usable responses to the supplementary questions. Respondents may choose to answer none of the questions on the supplement, or they may not provide answers to key questions within it. Reweighting is one of the methods that are historically used to adjust

for such failures to respond. Reweighting accounts for missing information by increasing the weights assigned to the individuals from whom information *was* obtained. Currently, the Bureau of the Census calculates weights for all CPS supplemental questionnaires.

During and after the administration of the February 1996 and 1998 Displaced Worker Surveys, quality assessment research was conducted as part of the Bureau of Labor Statistics' ongoing effort to improve the quality of its surveys.[2]

Notes to the Appendix

[1] For more information on these changes, see "Revisions in the Current Population Survey Effective January 1994," *Employment and Earnings* (Bureau of Labor Statistics, February 1994).

[2] For more information on the research conducted on the February 1996 survey, see James L. Esposito and Sylvia Fisher, "A Summary of Quality-Assessment Research Conducted on the 1996 Displaced-Worker/Job-Tenure/Occupational-Mobility Supplement," BLS Statistical Note Number 43 (Bureau of Labor Statistics, April 1998).

International comparisons of labor productivity and per capita income

A new cross-national study reveals differences in economic performance and living standards that are both quantitatively and qualitatively large across countries and regions

Bart van Ark and Robert H. McGuckin

Interest in international comparisons of economic performance and living standards has grown with increased world trade and improved labor and capital mobility. Differences among countries in average labor productivity, a measure of economic performance, and income per capita, a measure of living standards, are determined by differences in the number of annual working hours per person and the share of the population that works. Thus, any study of international variations in these measures must be accomplished using a range of labor market indicators—working hours, unemployment, and labor force participation rates.

This article describes recent work at The Conference Board in combining estimates from a variety of statistical sources to reconcile labor productivity and per capita income for a wide range of countries and regions.[1] This approach helps in understanding how living standards and economic performance are related. Because these factors are affected by policy, identifying their relative importance in attaining economic goals provides benchmarks for assessing the costs of particular policies and potential areas for reform.

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A comparisons framework

Even when two countries have similar productivity levels, less use of labor—fewer hours of work, more unemployment, and lower labor participation rates—can cause one to have lower per capita income than the other.[2] This relationship can be conveniently expressed with the aid of the following decompositions that link differences in per capita income and productivity. First, the difference in per capita income, O/P, between two countries (X and Y) is expressed as the difference in labor productivity times the difference in labor input per person, H/P:

$$O/P^{x\text{-}y} = (O/H)^{x\text{-}y} * (H/P)^{x\text{-}y} \quad (1)$$

Second, the differences in working hours per person are decomposed into differences in: hours worked per person employed (H/E); numbers of persons employed relative to the total labor force, that is, employed persons plus registered unemployed persons, (E/L); the ratio of the labor force to all persons aged 15 to 64, that is, the "working age" population ($L/P15\text{–}64$); and the share of the working age population in the total population ($P15\text{–}64/P$). Algebraically, this can be expressed as:

$$H/P^{x\text{-}y} = (H/E)^{x\text{-}y} * (E/L)^{x\text{-}y} * (L/P15\text{–}64)^{x\text{-}y} * (P15\text{–}64/P)^{x\text{-}y} \quad (2)$$

This simple decomposition highlights major sources of labor supply and determines the fraction of the population employed. For example,

equation 2 attributes lower labor force participation in country *X*, relative to country *Y*, to fewer working hours per employee, higher official unemployment, lower labor force participation (that is, underemployment), or a too-young or too-aged population.

Data sources and comparability

Until recently, comparisons of productivity and per capita income were restricted to a small number of countries. But efforts during past decades to construct an internationally consistent system of national accounts have greatly expanded both the number of countries that can be compared and the quality of the comparisons. Estimates of output and per capita income are now regularly published by international organizations, such as Eurostat, the International Monetary Fund, the Organization for Economic Cooperation and Development (OECD), the United Nations, and the World Bank. Secondary sources with estimates for a larger range of variables, including productivity, labor input, expenditure, investment, and their components, which are frequently used in academic and policy studies, also have been developed.[3]

Much of the work on international comparisons is based on comparisons of growth rates across countries, which minimize measurement errors from methodological differences in the way aggregate economic measures are created. This is because many of these errors are relatively constant over time, and therefore drop out when the growth rate is calculated.[4]

In implementing the decomposition presented above, it is necessary to develop comparable measures of output and labor inputs in terms of levels. Level comparisons can be more sensitive to differences in estimation procedures. Moreover, the need to convert output values from many countries into a common currency means that purchasing power parities (PPPs) are required. Below, we briefly outline some of the major problems that are encountered in developing the key magnitudes required for our reconciliation—output, PPPs, and labor input measures. As indicated earlier, we seek a set of internationally comparable indicators, which are not necessarily the "best" measure for an individual country.

Gross domestic product. The gross domestic product (GDP) of an economy, defined as the total gross value of production minus intermediate inputs in current prices, is calculated using relatively consistent methodologies across most countries. Although countries are at different stages in implementing the new 1993 guidelines for the United Nations System of National Accounts (SNA), most countries at least adhere to the 1968 version of SNA.

Despite common methodologies, comparisons of real GDP have become more complicated during recent years. As the share of services in output has increased, distinguishing between price and quantity components of the value of output has become increasingly difficult. This is partly because of the lack of primary statistics for services, such as censuses and price surveys. In addition, it is conceptually more difficult to define the quantity of a particular service delivered than the quantity of a tangible good.[5]

This problem of increasing proportions of poorly measured services is common to all countries. It is of particular concern in international comparisons because individual countries tend to follow their own procedures in estimating services output. Moreover, because the shares of services vary across national economies, the impact of the problem is not uniform.

A second problem is that the weighting systems used to aggregate individual goods and services into GDP measures at constant prices are not fully harmonized. Several advanced countries—including, most recently, the United States—are now producing annually chained series for GDP. Because this procedure relies on very recent component weights, it is preferred for statistical as well as theoretical reasons. On the other hand, there are still a substantial number of countries that use 5- or even 10-year-old base-year weights in developing their national accounts. These differences affect the comparability of the time series of real GDP, as longer base periods lead to an overstatement of growth rates when (as is usual) observations for the first year of the period are used as GDP component weights.

A third problem, one that becomes particularly important when low-income countries are included in the analysis, is undercoverage of output measures due to neglect of large parts of the informal economy. Even in advanced countries, adjustments for the underground economy can differ substantially, and the effect on GDP estimates can be as much as 15 to 20 percent.[6]

To obtain maximum comparability across countries, we obtained our measures of GDP directly from the OECD *National Accounts*,[7] and updated them to 1997 on the basis of growth rates from the June 1998 issue of the OECD biannual publication, *Economic Outlook*. For non-OECD countries, which, for the most part, are countries on the Asian and South American continents, data are based on a consistent set of estimates through 1992 by A. Maddison.[8] These have been updated to 1996 with national account statistics from individual countries, complemented with information obtained from the Asian Development Bank, A. Hofman, and the World Bank.[9]

Purchasing power parities. Even with consistent methodologies for measurement of GDP, comparisons of output in different countries cannot be undertaken without making adjustments for differences in relative price level. Hence the use of purchasing power-adjusted exchange rates is a fundamental

component of the level comparisons pursued in this article. Purchasing power parities (PPPs) are the amount of a country's currency that is required to purchase a standard set of goods and services worth one unit of the currency of another (base) country. When converting output measured in one currency into the currency of another country, PPPs take account of the price differences between the countries.

The use of purchasing power parities has a long history going back to work done at the Organization of European Economic Cooperation during the 1950s.[10] Since 1975, the construction of PPPs has been a regular aspect of the statistical programs of international agencies such as Eurostat, the OECD, the United Nations, and the World Bank. An important feature of the recent PPP estimates is that they allow one to make multilateral comparisons between groups of countries. Hence the results are transitive, so that, for example, a comparison of the U.S./Germany PPP with the Germany/France PPP gives the same result as the U.S./France PPP.

For OECD countries, purchasing power parities are now estimated on a regular basis. In this study, we used OECD estimates of 1993 PPPs developed according to the EKS method.[11] Hence, 1997 GDP is expressed at the price level of 1993, and then converted into U.S. dollars using the 1993 EKS PPPs. For most non-OECD countries, the latest benchmark estimates of PPPs relate only to 1980 or 1985, but R. Summers and A. Heston and A. Maddison compiled a complete set of PPPs for 1990, derived from the earlier benchmarks.[12] Maddison's estimates of GDP in dollars are based on PPPs calculated according to the Geary-Khamis method.[13] We applied Maddison's 1990 PPPs for non-OECD countries to our 1996 estimates expressed in 1990 prices.

One of the problems in using purchasing power parities is that the results for a particular year, say 1997, differ depending on whether the comparison is made based on, for example, 1990 or 1993 PPPs. This is because the weights used for the cross-country level comparisons are not consistent with those of the national time series, which are used in the updating. However, it appears that these differences are relatively small between the 1990 and 1993 benchmark PPPs, in contrast to comparisons of earlier benchmark-year PPPs.[14] Thus, the results we derive are relatively insensitive to our choice of PPP. Nevertheless, for the sake of consistency, we also show, in table 2, the 1996 estimates for OECD countries when they have been derived on the same basis as those for the non-OECD countries—that is, by using Geary-Khamis PPPs for 1990.

Employment. Estimates of employment in this article are for the average number of persons with one or more paid jobs during the year.[15] Unfortunately, labor accounts are not as well harmonized as are national accounts, although a small number of countries provide employment estimates within the national accounts framework. For OECD countries, the employment estimates are mostly derived from the OECD labor force statistics.[16] These data are based on labor force or population surveys, so that they match the figures on total population and on the population aged 15 to 64, which are obtained from the same source. For Asian and South American countries, the primary data source for labor input estimates was Maddison, who largely used labor survey and population census results.[17] Maddison's latest estimates were for 1992, and these were updated to 1996 with time series from the Asian Development Bank and the World Bank.[18]

Unemployment. The official unemployment estimates—that is, the shares of the labor force not employed—are based on OECD estimates of standardized unemployment.[19] These estimates are developed by the OECD to ensure comparability over time and across countries. For the Asian and South American countries, we calculated unemployment on the basis of the difference between the employment and labor force estimates.

Working hours. The international comparability of working hours is one of the most troublesome aspects in any data set on productivity, as very different data collection and processing procedures still are applied across countries. For a small number of countries, including Canada, the United Kingdom, and the United States, estimates of hours actually worked (as opposed to hours paid) can be directly obtained on the basis of labor force survey information. Most other countries, however, make use of some variant of the "component method" to arrive at hours actually worked.[20] This method begins with a measure of paid hours or "usual" hours, which is supplemented with estimates of "unusual" working hours (such as overtime) and various types of hours not worked, including vacation and holidays, absences due to sickness, and part-time work. Estimates based on the component method generally are obtained by combining information on paid employee hours from establishment surveys (such as the U.S. Current Employment Statistics program) and information on working hours of self-employed and unpaid family workers from labor force surveys (such as the U.S. Current Population Survey).

The major differences that exist in methods for compiling hours figures make it difficult to obtain comparable international estimates of working hours. While it is not possible to fully assess which country estimates are "best," the data produced by Maddison are largely based on the component method and have been adjusted where possible to improve comparability. This is a big advantage for the present study.[21] We updated Maddison's estimates for 1992 with the trends from series in the OECD publication, *Employment Outlook*,[22] or from national sources, although in quite a number of cases we had to assume that working hours were constant between 1992 and 1997.

This said, Maddison's estimate of annual working hours in

the United States requires some further discussion, as his figures are considerably lower than those derived using alternative data sources. For 1997, U.S. hours per person employed, updated from Maddison's estimate for 1992, are 1,628 per year. Another estimate of annual working hours is developed by the OECD using data on total hours worked derived from the Current Population Survey, which are divided by the average numbers of persons at work. This estimate was as high as 1,966 hours per year in 1997.[23]

The estimate of U.S. hours used has an important impact on the international comparisons of productivity. When the updated Maddison estimates for annual hours are used, 4 of the 23 OECD countries for which data are shown in table 1 have higher labor productivity than the United States in 1997—Belgium (107 percent of the U.S. level), Norway (106 percent), France (103 percent), and the Netherlands (101 percent). When the OECD estimate of 1,966 hours for U.S. workers is used, these four countries have a much bigger productivity lead—Belgium (130 percent of the U.S. level), Norway (128 percent), France (124 percent), and the Netherlands (122 percent). In addition, five other countries are above the U.S. level on the basis of the latter measure, namely Austria (103 percent), Germany (106 percent), Ireland (109 percent), Italy (108 percent), and the United Kingdom (101 percent). The implausibility of these comparative productivity figures in combination with a U.S. estimate of annual working hours, which is as much as 400 to 500 hours per person higher than in Europe, leads us to reject the U.S. estimate of 1,966 hours per person in 1997.[24]

While it is not possible to completely assess which U.S.

Table 1. Decomposition of gross domestic product (GDP) per hour relative to the OECD average into effects of working hours, labor force participation and GDP per capita, 25 countries and areas, 1997

Country or area	GDP per hour worked as a percent of the OECD average	Effect of working hours[1]	GDP per person employed as a percent of the OECD average[2]	Effect of unemployment[3]	Effect of labor force as a percent of the working age population (aged 15 to 64)[4]	Effect of working age population (aged 15 to 64) as a percent of total population[5]	Total effect of labor force participation[6]	GDP per person employed as a percent of the United States[7]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Australia	96	0	96	–1	2	0	1	97
Austria	102	–4	98	3	–2	1	2	100
Belgium	128	–5	123	–3	–19	–1	–22	101
Canada	97	2	98	–2	2	2	2	100
Denmark	92	0	92	1	9	1	11	103
Finland	93	0	94	–7	2	0	–5	88
France	123	–9	113	–6	–9	–2	–17	97
Germany[8]	105	–5	100	–3	–4	2	–4	96
Greece	75	–4	71	–2	–11	1	–12	58
Ireland	108	5	113	–4	–12	–3	–18	95
Italy[9]	106	–11	96	–5	–1	2	–5	91
Japan	82	10	92	4	6	4	14	106
The Netherlands	121	–26	95	2	–4	2	0	96
New Zealand	69	8	77	1	3	–1	2	79
Norway	126	–17	109	4	12	–4	12	122
Portugal	56	2	58	0	1	1	2	60
Spain	84	13	97	–14	–13	2	–26	71
Sweden	93	–3	89	–3	6	–4	–1	88
Switzerland	94	0	94	3	12	1	17	111
Turkey	36	2	38	0	–8	–1	–9	29
United Kingdom	100	–9	91	0	3	–2	0	92
United States	120	–1	118	3	9	–2	10	128
Weighted average:								
All OECD[10]	100	0	100	0	0	0	0	100
European Union (EU–14)[11]	103	–5	98	–4	–4	0	–8	90
North West Europe[12]	108	–7	100	–2	–2	0	–4	96

[1] Calculated on the basis of actual hours worked per person per year.
[2] Sum of columns 1 and 2.
[3] Calculated on the basis of standardized unemployment rates from OECD.
[4] Calculated on the basis of labor force as a percent of the population aged 15 to 64. This column also includes rounding differences.
[5] Calculated on the basis of population aged 15 to 64 as a percent of total population
[6] Sum of columns 4, 5, and 6, plus rounding differences.
[7] Sum of columns 3 and 7.
[8] Includes the former East Germany.
[9] Employment and labor force estimates for Italy were increased by 20 percent to account for "underground" employment. See A. Maddison, *Dynamic Forces in Capitalist Development* (London, Oxford University Press, 1991), p. 252.
[10] Consists of the countries itemized above. Excludes Iceland and Luxembourg and countries that have recently become OECD members (Czech Republic, Hungary, Korea, Mexico, and Poland).
[11] Excludes Luxembourg.
[12] Unweighted average for Austria, Belgium, Denmark, Germany (including the former East Germany), Finland, France, The Netherlands, Norway, Sweden, Switzerland, and the United Kingdom.

NOTE: Due to rounding, sums of individual items may not equal totals.

SOURCES: See text.

hours measure is most accurate, the Maddison estimates provide a relatively consistent international standard. However, a final judgment cannot be made before more detailed work on international comparability of hours is carried out.

Results for the OECD

Chart 1 shows comparisons of labor productivity (top bar) and per capita income (bottom bar) for the United States, the European Union, and Japan, relative to the GDP weighted average for the OECD in 1997. The bars in the center of each diagram show productivity after adjusting for the contribution of each labor-input component.

The chart panels show striking differences across the three core regions within the OECD. The United States is clearly ahead of the European Union and Japan in terms of both GDP per capita and labor productivity, but the ranking between the latter two differs. Whereas the European Union comes second after the United States in productivity, it ranks third on the per capita income measure. Indeed, the relative labor productivity of the European Union is 2.7 percentage points higher than the OECD average, whereas the per capita income is 10 per-

Table 2. Decomposition of gross domestic product (GDP) per hour relative to the United States into effects of working hours, unemployment, labor force participation and GDP per capita, 28 countries and areas, 1996

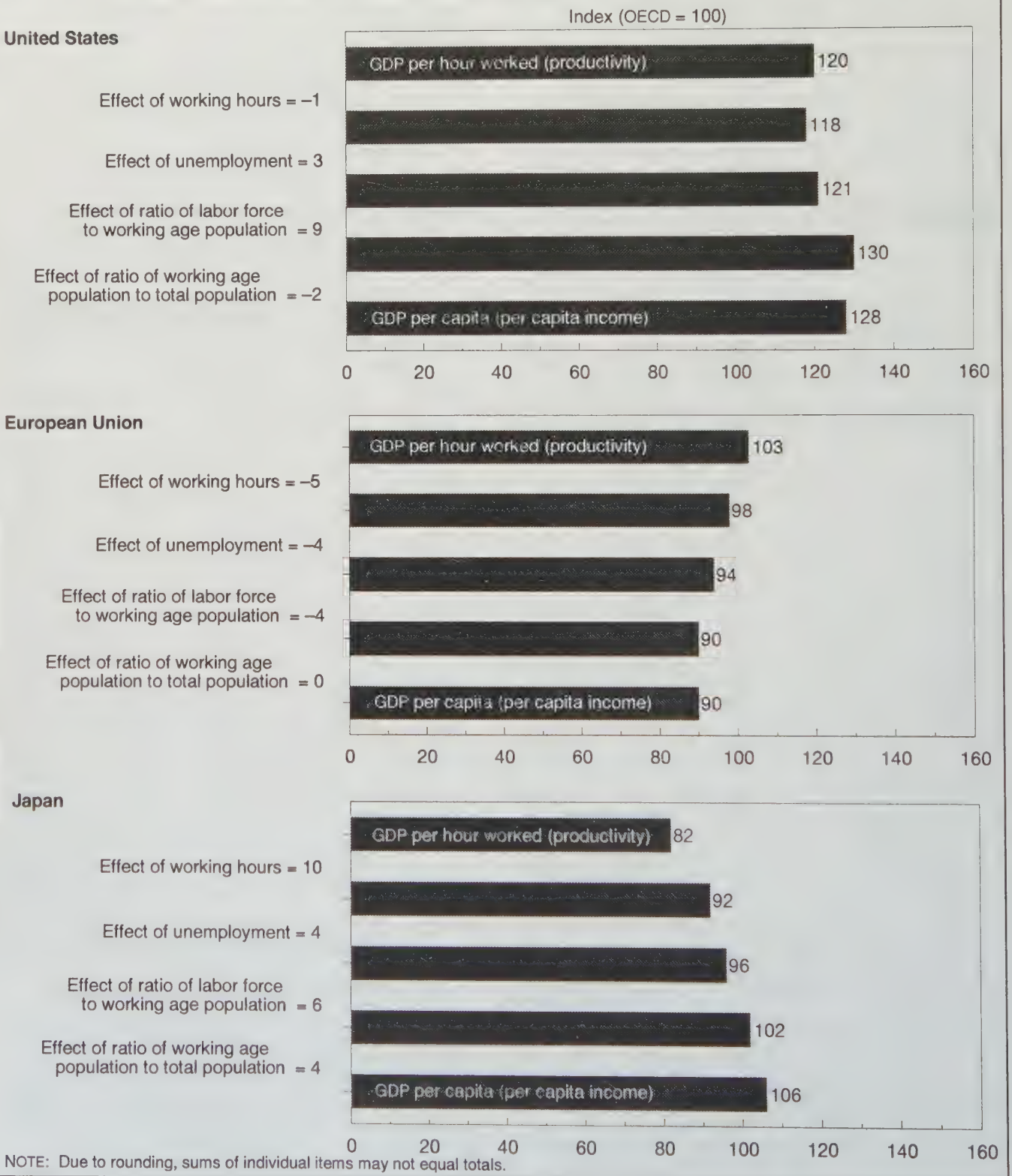
Country or area	GDP per hour worked as a percent of the United States	Effect of working hours[1]	GDP per person employed as a percent of the United States[2]	Effect of unemployment[3]	Effect of labor force as a percent of the working age population (aged 15 to 64)[4]	Effect of working age population (aged 15 to 64) as a percent of total population[5]	Total effect of labor force participation[6]	GDP per person employed as a percent of the United States[7]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Argentina	41	7	48	–4	–10	–3	–13	35
Brazil	26	4	30	–5	–7	–1	–8	22
Chile	41	10	50	–5	–12	–1	–12	38
Colombia	29	7	36	–8	–11	–1	–12	24
Mexico	23	6	29	–1	–5	–2	–8	22
Venezuela	44	8	52	–2	–12	–4	–16	36
Bangladesh	4	1	6	0	–2	0	–2	3
China	8	3	11	1	0	0	1	12
Hong Kong	66	26	93	3	–10	6	–1	92
India	7	3	9	0	–1	–1	–2	7
Indonesia	13	5	18	0	–2	–1	–3	15
Japan	72	9	82	2	–1	5	6	87
Malaysia	31	11	42	1	–5	–4	–8	33
Pakistan	10	4	14	0	–5	–2	–6	7
Philippines	9	3	13	0	–1	–1	–2	10
Singapore	54	23	77	2	8	6	16	93
South Korea	37	20	57	3	–8	4	–2	56
Sri Lanka	18	6	24	–2	–8	0	–10	14
Taiwan	47	22	70	2	–13	3	–8	61
Thailand	19	7	26	0	0	1	1	26
United States	100	0	100	0	0	0	0	100
GDP-weighted average:								
Latin America	29	5	34	–4	–3	–2	–9	25
Asia	12	4	17	0	–1	0	–1	15
Asia excluding Japan	10	4	13	0	–1	0	–1	12
Newly Industrializing Economies[8]	43	22	65	2	–9	4	–3	62
Southeast Asia[9]	15	5	20	0	–2	–1	–3	17
South Asia[10]	7	3	10	0	–2	–1	–3	7
OECD[11]	84	1	85	–2	–5	1	–6	79

[1] Calculated on the basis of actual hours worked per person per year.
[2] Sum of columns 1 and 2.
[3] Calculated on the basis of the ratio of employment to the labor force.
[4] Calculated on the basis of employment force as a percent of the population aged 15 to 64.
[5] Calculated on the basis of population aged 15 to 64 as a percent of total population.
[6] Sum of columns 4, 5, and 6.
[7] Sum of columns 3 and 7.
[8] Includes Hong Kong, Singapore, South Korea, and Taiwan.
[9] Includes Indonesia, Malaysia, Philippines, and Thailand.
[10] Includes Bangladesh, India, Pakistan, and Sri Lanka.
[11] Excludes Iceland and Luxembourg and countries that have recently become OECD member (Czech Republic, Hungary, Korea, Mexico, and Poland). Rounding differences, and so forth, are included with the estimates of the labor force/active population effect in column 5.

NOTE: Due to rounding, sums of individual items may not equal totals.

SOURCES: Sources for GDP, hours, employment, and labor productivity are as described in the text, except that data for China are from A. Maddison, *Chinese Economic Performance in the Long Run* (Paris, OECD Development Center,1998). Data on working hours were obtained from sources described in the text, except that those for Hong Kong, Singapore, Korea, and Taiwan are based on N.F.R. Crafts, "Economic Growth in East Asia and Western Europe Since 1950: Implications for Living Standards," *National Institute Economic Review* (National Institute of Economic and Social Research), October, 1997, pp.75–84.

Chart 1. **Decomposition of gross domestic product (GDP) per hour relative to the OECD average into effects of working hours, unemployment, labor force participation, and GDP per capita, United States, European Union, and Japan, 1997**


Index (OECD = 100)
United States
GDP per hour worked (productivity) 120
Effect of working hours = –1 118
Effect of unemployment = 3 121
Effect of ratio of labor force to working age population = 9 130
Effect of ratio of working age population to total population = –2
GDP per capita (per capita income) 128
0 20 40 60 80 100 120 140 160
European Union
GDP per hour worked (productivity) 103
Effect of working hours = –5 98
Effect of unemployment = –4 94
Effect of ratio of labor force to working age population = –4 90
Effect of ratio of working age population to total population = 0
GDP per capita (per capita income) 90
0 20 40 60 80 100 120 140 160
Japan
GDP per hour worked (productivity) 82
Effect of working hours = 10 92
Effect of unemployment = 4 96
Effect of ratio of labor force to working age population = 6 102
Effect of ratio of working age population to total population = 4
GDP per capita (per capita income) 106
0 20 40 60 80 100 120 140 160

NOTE: Due to rounding, sums of individual items may not equal totals.

centage points behind it. The difference of 12.7 percentage points is attributable to shorter average working hours (5.2 points), higher unemployment (3.6 points), and lower labor force participation (6.3 points) in the European Union.

In Japan, the opposite situation occurs, with labor productivity as much as 18.6 percentage points behind the OECD average, but with per capita GDP 5.7 percentage points above corresponding OECD measure. In this case, the difference for Japan is accounted for by substantially higher average hours per person employed (10.1 points), less unemployment (3.9 points), higher labor force participation (6.2 points), and a lower dependency rate of people in the nonworking-age population than is the case for the OECD as a whole (3.9 points). The United States also benefits from a relatively high labor force participation rate, but some of this advantage is offset by a relatively high dependency rate.

In conclusion, whereas the European Union clearly has a labor problem that depresses the relative level of per capita income, Japan's problems appear to be more related to relatively low productivity, which is compensated for only by extraordinary high labor force participation and long working hours of the employed population.

Results for Asia and South America

Panels 1 and 2 of chart 2 show the results of comparisons for Asia (excluding Japan) and South America, based on data for 1996. Rather than being compared to the OECD average, as in the foregoing analysis, levels for Asian and South American countries are compared to that of the United States. Per capita income and labor productivity in both regions are far behind the U.S. level, but some important differences can be observed. First, labor productivity and per capita income are lower in Asia than in South America. Secondly, the productivity gap relative to the United States is larger than the per capita income gap for Asia, whereas South American productivity is closer to the U.S. level than is the region's per capita income. As in Asia, annual average hours worked in South America are higher than those in the United States, but lower labor force participation more than offsets the positive contribution of the higher working hours to per capita income.

In Asia, higher average working hours, compared to the United States, are not offset by lower labor force participation. This is particularly true for the four East Asian Newly Industrializing Countries (NICs)—South Korea, Taiwan, Hong Kong, and Singapore (chart 2, panel 3). For this group of countries, labor productivity is 42.9 percent of the U.S. average, with per capita income 61.9 percent of the U.S. figure. The narrower gap (38 percentage points) for per capita income is almost totally explained by higher average working hours (21.7 percentage points) in these countries. For example, South Korean workers put in nearly 2,500 hours per year, nearly a third more than U.S. workers. Nevertheless, labor force participation in the East Asian NICs is still somewhat lower than in the United States, which somewhat moderates the effects of relative per capita income level of the East Asian region in 1996.

Conclusions

Productivity is only one of the factors determining living standards. Living standards also depend on "how many mouths need to be fed" from what is produced. In this respect, important differences are observed between countries. For example, the level of productivity in France is above that of the United States. But, this productivity advantage is eroded by the effects of fewer working hours and lower labor force participation rates, particularly among the working age population.

As a final note, one needs to be cautious in applying such information directly for policy purposes. If, for example, the United States has lower productivity due to greater use of low-skilled labor than has France, efforts by France to increase labor force participation might reduce that country's productivity while increasing per capita income. Moreover, relatively high wage costs in European countries may have induced rapid substitution of capital for labor in these countries relative to the United States, explaining their high productivity levels.[25] In short, policy analysts must look at a wider range of issues than those highlighted here. Nevertheless, the importance of these benchmark analyses should not be minimized. They provide useful ways to focus policy work by indicating areas for potential improvements, and assessing the relative costs of existing labor market policies. □

Notes

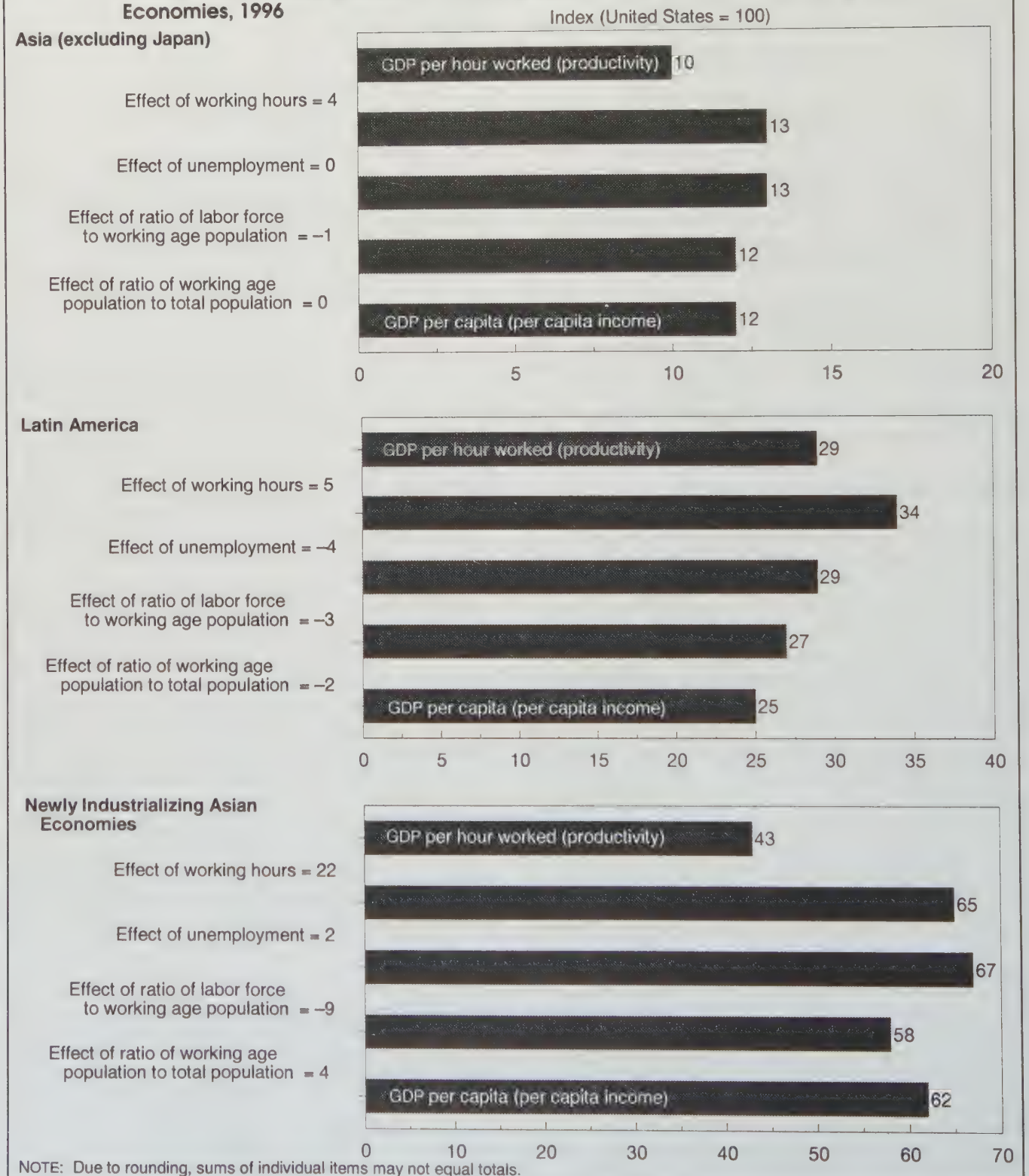
[1] See The Conference Board series, *Perspectives on a Global Economy*: "Understanding Differences in Economic Performance," Report 1187–97–RR (New York, Summer 1997); "Technology, Productivity, and Growth: U.S. and German Issues," Report 1206–97–RR (Brussels, Winter 1997); "Asia After the Crisis: Challenges for a Return to Rapid Growth," Report 1219–98–RR (New York, Summer 1998); and "The Euro's Impact on European Labor Markets," Report 1236–99–RR (New York, Winter 1998).

[2] Per capita GDP is not a complete measure of well being, but it is an important indicator of it, and highly correlated with other indicators.

[3] Specifically, these sources include R. Summers and A. Heston, "The Penn World Table (March 5): An Expanded Set of International Comparisons, 1950–1988," *Quarterly Journal of Economics*, May 1991, pp. 327–68; and R. Summers and A. Heston, *Penn World Tables 5.5*, diskette, June 1993. For estimates over a longer timespan, see A. Maddison, *Monitoring the World Economy 1820–1992* (Paris, OECD Development Centre, 1995).

[4] Maddison suggests that over the past 40 to 50 years, differences between growth measures of OECD countries due to noncomparability of the measure "...of less than 0.2% a year should probably not be regarded as

Chart 2. **Decomposition of gross domestic product (GDP) per hour relative to the United States into effects of working hours, unemployment, labor force participation, and GDP per capita, Asia (excluding Japan), Latin America, and the Newly Industrializing Asian Economies, 1996**


Index (United States = 100)
Asia (excluding Japan)
GDP per hour worked (productivity) 10
Effect of working hours = 4
13
Effect of unemployment = 0
13
Effect of ratio of labor force to working age population = –1
12
Effect of ratio of working age population to total population = 0
GDP per capita (per capita income) 12
0 5 10 15 20
Latin America
GDP per hour worked (productivity) 29
Effect of working hours = 5
34
Effect of unemployment = –4
29
Effect of ratio of labor force to working age population = –3
27
Effect of ratio of working age population to total population = –2
GDP per capita (per capita income) 25
0 5 10 15 20 25 30 35 40
Newly Industrializing Asian Economies
GDP per hour worked (productivity) 43
Effect of working hours = 22
65
Effect of unemployment = 2
67
Effect of ratio of labor force to working age population = –9
58
Effect of ratio of working age population to total population = 4
GDP per capita (per capita income) 62
0 10 20 30 40 50 60 70

NOTE: Due to rounding, sums of individual items may not equal totals.

significant." See A. Maddison, "Macroeconomic Accounts for European Countries," in B. van Ark and N.F.R. Crafts, eds., *Quantitative Aspects of Post-War European Economic Growth* (Cambridge, CEPR/Cambridge University Press, 1996), pp. 27–83, at p. 30.

[5] See Z. Griliches, ed., *Output Measurement in the Service Sectors* (Chicago, National Bureau of Economic Research/University of Chicago Press, 1992) for a range of papers on output, price, and productivity measurement of services. For a recent overview of the size of the problem, see Edwin R. Dean, "The accuracy of BLS productivity measures," *Monthly Labor Review*, February 1999, pp. 24–34.

[6] See Maddison, "Macroeconomic Accounts for European Countries."

[7] *National Accounts, Main Aggregates, Volume 1* (Paris, Organization for Economic Cooperation and Development, 1998).

[8] See Maddison, *Monitoring the World Economy*.

[9] Asian Development Bank, *Key Indicators of Developing Asian and Pacific Countries* (Manilla, Asian Development Bank, 1997); A. Hofman, *The Economic Development of Latin America in the Twentieth Century* (Cheltenham, U.K., Edward Elgar Publishers, forthcoming); and World Bank, *World Development Indicators 1998*, CD-ROM version (Washington, The World Bank, 1998).

[10] See, for example, M. Gilbert and I.B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies* (Paris, Organization of European Economic Cooperation, 1954); and M. Gilbert and Associates, *Comparative National Products and Price Levels* (Paris, Organization for Economic Cooperation and Development, 1958).

[11] See Organization for Economic Cooperation and Development, *Purchasing Power Parities and Real Expenditures, EKS Results, Volume I* (Paris, Organization for Economic Cooperation and Development, 1995). EKS is named after O. Eltetö, P. Köves, and B. Szulc, who are the inventors of this method. EKS PPPs are basically geometric averages of binary PPPs. This means that they represent averages that do not account for differences in country size. For recent reviews of PPP programs, see, for example, I. Castles, "Review of the OECD-Eurostat PPP Programme The Evaluation of the International Comparison Program" (downloadable from **http://www.oecd.org**, 1997); and J. Ryten, "The Evaluation of the International Comparison Programme" (downloadable from **http://www.un.org/Depts/unsd**, 1998).

[12] See Summers and Heston, *Penn World Tables 5.5*; and Maddison, *Monitoring the World Economy*.

[13] The Geary-Khamis method, named after R. Geary and S.H. Khamis, simultaneously develops so-called international prices and purchasing power parities. Unlike the EKS system, these multilateral PPPs give weights to countries according to their size measured in terms of gross national product. (See, for example, Organization for Economic Cooperation and Development, *Purchasing Power Parities and Real Expenditures*.) For example, in application of this method, the GDP of the United States counts approximately 5 times as much in the determination of international prices as that of India and about 7.5 times as much as that of Brazil.

[14] See Maddison, *Monitoring the World Economy*, appendix C.

[15] Below we also introduce average annual working hours.

[16] Organization for Economic Cooperation and Development, *Labour Force Statistics 1977–1997* (Paris, Organization for Economic Cooperation and Development, 1998).

[17] Maddison, *Monitoring the World Economy*.

[18] See Asian Development Bank, *Key Indicators*; and World Bank, *World Development Indicators*.

[19] Organization for Economic Cooperation and Development, *Economic Outlook* (Paris, Organization for Economic Cooperation and Development, June 1998).

[20] Including most Northwest European countries. See Organization for Economic Cooperation and Development, *Employment Outlook*, p. 185. Estimates for European countries using the component method are provided in "Le temps de travail dans l'Union europeenne: estimation de la duree effective annuelle (1983–1993)," *Statistiques en bref*, no. 4 (Luxembourg, Eurostat, 1995).

[21] See A. Maddison, "Monitoring the Labour Market: A Proposal for a Comprehensive Approach in Official Statistics," *Review of Income and Wealth*, June 1980, pp. 175–217. Maddison proposed a comprehensive system of labour market accounts for a number of OECD countries to permit the compilation of consistent estimates of hours worked.

[22] Organization for Economic Cooperation and Development, *Employment Outlook*.

[23] Organization for Economic Cooperation and Development, *Employment Outlook*, table E.

[24] The high estimate of U.S. hours may partly reflect upward response biases in the measurement of actual hours at work in labor force surveys. On the other hand, hours estimates based on establishment surveys are more vulnerable to understatement of hours of self-employed workers and family workers.

[25] See, for example, The Conference Board, "The Euro's Impact on European Labor Markets."

Scope of ADA disability

On June 22, 1999, the Supreme Court handed down three decisions elaborating on the 1990 Americans with Disabilities Act (ADA). In two of the cases, the Court narrowed the scope of the definition of "disability" under the Act. The ADA defines "disability" as (1) a physical or mental impairment that substantially limits one or more of the major life activities of an individual, (2) a record of such an impairment, or (3) being regarded as having such an impairment.[1] Focusing on the first provision of the definition, the Court stated that only those individuals with a substantial impairment that cannot be reduced with mitigating measures—estimated by Congress at about 43 million people nationwide—are covered by the Act. The Court rejected the inclusion of persons with a major life impairment for whom correction of the impairment was possible (for example, eyeglasses correcting a vision problem). That group numbers near 160 million nationwide.

In *Sutton* v. *United Airlines, Inc.*,[2] the Supreme Court held that any determination as to whether a person is disabled under the ADA must take account of corrective measures that mitigate the impairment. The Court noted that, under the ADA, a disability is not a condition that "might," "could," or "would" substantially limit a major life activity of an individual, but is one that in fact limits such an activity.

The petitioners in *Sutton* were severely myopic twin sisters with uncorrected eyesight of 20/200 or worse. With corrective measures, the sisters can see as well as persons without this impairment. The sisters both applied to United Airlines to become commercial airline pilots, but were not hired, because United has a minimum standard for uncorrected eyesight of 20/100. The sisters then sued United under the ADA.

The district court dismissed the complaint because it failed to state a claim upon which relief could be granted. The court indicated that the sisters were not disabled under the ADA, because their vision problems could be corrected. The tenth circuit affirmed the district court's decision.

The Supreme Court's opinion began by noting that no Federal agency has specifically been delegated the responsibility of interpreting the term "disability" under the ADA. Both the U.S. Department of Justice and the Equal Employment Opportunity Commission (EEOC) have weighed in on the topic by issuing regulations supporting the evaluation of each disability claim on a case-by-case basis.[3] The EEOC also defines the term "substantially limits" as "unable to perform a major life activity that the average person in the general population can perform."[4] Because both sides in this case accepted these regulations, the Court did not rule on what deference the regulations ultimately will be due.

The Court outlined three justifications for its decision that a determination as to whether an individual has a disability should account for mitigating measures. First, the Court stated that the phrase "substantially limits" in part (1) of the definition of "disability" above is in the present indicative tense of the verb, indicating that a person must be substantially limited in the present, not in the future. Second, the Court ruled that determinations of disability must be made on an individualized basis and that judging the matter on the basis of uncorrected or unmitigated conditions runs directly against such an inquiry. Finally, the Court examined findings by Congress in support of the ADA which indicated that 43 million people in the United States have one or more physical or mental disabilities. Congress had intended to cover all people with some kind of a condition, irrespective of whether it could be corrected, some 160 million people would have been covered, the Court noted.

With regard to part 3 of the definition of "disability," the Court ruled that the sisters did not properly allege that they were "regarded as" having an impairment that substantially limits a major life activity. United's vision standard was merely a method of preferring some physical attributes over others in hiring pilots, a permissible procedure. The Court explained that, under this provision, employers must mistakenly believe that an individual has a substantially limiting impairment.

In *Albertson's, Inc.* v. *Kirkingburg*,[5] the Court held that, under the ADA, an employer may require employees to meet a Federal safety regulation as a job qualification, irrespective of the fact that the regulation's standard may be waived in an individual employee's case. The Court indicated that employers need not justify the enforcement of such a regulation.

In August 1990, Hallie Kirkingburg applied for, and received, a job as a truckdriver with the warehouse of Albertson's grocery in Portland, Oregon. Kirkingburg has an uncorrectable condition called amblyopia that leaves him with 20/200 vision in his left eye. Prior to his first day of work, Kirkingburg was examined by a doctor to determine whether his eyesight met Federal vision standards for commercial truckdrivers. The current vision regulation requires a corrected distant visual acuity of at least 20/40 in each eye and distant binocular acuity (that is, vision using both eyes) of at least 20/40. Despite the fact that Kirkingburg's problem is monocular, or present in only one eye, and does not meet the Federal standard for commercial truckdrivers, the doctor mistakenly certified him to drive. After an injury on the job in December 1991, Kirkingburg was examined by another physician, who determined that his eyesight did not meet the Federal stan-

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"The Law at Work" is prepared by Charles J. Muhl of the Office of Publications, Bureau of Labor Statistics, and is largely based on information from secondary sources.

dards. The physician told Kirkingburg that he would have to apply to the Department of Transportation for a waiver of the requirement. Under an experimental Transportation Department program initiated in the summer of 1992, applicants who had deficient vision, but a "clean" driving record with a commercial vehicle for 3 years could obtain certification. Kirkingburg applied for a waiver, but was fired by Albertson's prior to receiving it in early 1993. Albertson's refused to rehire him after he received the waiver. Kirkingburg sued Albertson's under the ADA, claiming that his having been fired violated the Act.

The District Court granted summary judgment to Albertson's, holding that Kirkingburg was not "otherwise qualified" to be a commercial truckdriver, because he did not meet the basic Transportation Department standards, either with or without a "reasonable accommodation," and that the waiver program for certification was not required as a reasonable accommodation because it was "a flawed experiment" that did not alter the basic vision requirements of the Department of Transportation. The ninth circuit court of appeals reversed the district court's decision, ruling that Kirkingburg was disabled because the manner in which he sees (that is, by monocular vision) differs significantly from that of most people (that is, with binocular vision). The ninth circuit also held that the waiver program was a legitimate part of the Department of Transportation's normal regulatory scheme and that permitting Kirkingburg to drive after obtaining such a waiver was a reasonable accommodation that Albertson's could make to enable Kirkingburg to retain his job.

The Supreme Court reversed the ninth circuit's ruling. The Court found three errors in the appeals court's reasoning regarding why Kirkingburg's condition met the ADA's first definition of disability. First, the ninth circuit appeared to hold that merely a "significant difference" (in Kirkingburg's case, in manner of vision) in the performance of a major life activity was sufficient to qualify an individual as disabled. The EEOC regulation defining "substantially limits" requires a "significant restriction" in a person's manner of performing a major life activity. The High Court was concerned that transforming "significant restriction" into "difference" would broaden the scope of the ADA's coverage and undermine the requirement that an impairment substantially limit a major life activity. Second, as in *Sutton*, the Supreme Court rejected the ninth circuit's suggestion that an individual's ability to compensate for an impairment need not be considered in judging whether the individual has a disability. The Court ruled that mitigating measures must be taken into account in making such a determination. Finally, the High Court held that whether someone was disabled was a question, the answer to which was to be determined on a case-by-case basis and not by a general classification of the illness or condition.

The Court also found that the Department of Transportation's waiver program was an experiment being used to obtain data to make an ultimate determination on whether the Department's vision standards should be less stringent. In light of its experimental nature, the waiver program did not require Albertson's to justify why it enforced the Transportation Department's vision regulations without regard to the program. Until the waiver program becomes a standard part of the Department's basic vision regulations, employers are not required to permit job applicants with impaired vision to work if they can obtain a waiver, the Court said.

In its final decision pertaining to the ADA, the Court ruled, in *Olmstead, Commissioner, Georgia Department of Human Resources, et al.* v. *L.C.*,[6] that States are required to place persons with mental disabilities in community settings rather than in mental institutions when three conditions are met: the State's physicians treating the person must have determined that the community setting is appropriate; the transfer to the community setting must not be opposed by the individual; and the State can effect the transfer with reasonable accommodation, taking into account the total resources available to the State in administering mental health care and the needs of other mentally disabled individuals. The case was decided under Title II of the ADA, which prohibits discrimination against those with disabilities in the provision of public services.

Updates on other cases

The Supreme Court issued decisions in three employment cases on its 1999 docket.[7]

In *Humana, Inc.* v. *Forsyth*,[8] the Court held that Humana Health Insurance of Nevada could be sued under the Racketeer Influenced and Corrupt Organizations Act (RICO) for allegedly overcharging millions of dollars in copayments to beneficiaries. Under certain Humana group policies, beneficiaries were to receive medical care at a hospital owned by the corporation and were responsible for paying 20 percent of the overall cost of treatment. The insurer was required to cover the other 80 percent. Humana negotiated discounts with the hospital, but did not pass them on to beneficiaries, who thus ended up paying well in excess of 20 percent of the overall cost of treatment received at the hospital. A group of beneficiaries sued Humana under RICO, alleging that the company engaged in racketeering activities consisting of fraud by mail, wire, radio, and television. The district court granted summary judgment to Humana, holding that the McCarran-Ferguson Act preempted the use of a claim under RICO in an area of State-regulated insurance. That Act asserts that "No Act of Congress shall be construed to invalidate, impair, or supersede any law enacted by any State for

the purpose of regulating the business of insurance, or which imposes a fee or tax upon such business, unless such Act specifically relates to the business of insurance." The district court found that, although RICO does not prohibit conduct that Nevada's law permits with respect to insurance regulation, the remedies provided under each law differ. RICO allows treble damages, while Nevada law authorizes only compensatory and punitive damages. The ninth circuit court of appeals reversed the district court's decision, adopting a "direct conflict" test for determining when a Federal law "invalidate[s], impair[s], or supersede[s]" a State insurance law and thus would be preempted. The Supreme Court affirmed the ninth circuit's decision, finding that the RICO statute advances Nevada's interest in preventing insurance fraud and that it does not impair any policy or administrative regime of that State. The Court noted that to "impair" a law is to hinder its operation or to "frustrate [a] goal of the law." However, using RICO in this manner is permissible because that Federal law does not directly conflict with any Nevada law. Thus, the beneficiaries can bring a claim against Humana under RICO.

In *American Manufacturers Mutual Insurance Co.* v. *Sullivan*,[9] the Court held that, in Pennsylvania, no notice or hearing is required prior to suspending an individual's medical payments in accordance with the State's worker's compensation program. Under the Pennsylvania Workers' Compensation Act, employers must pay all "reasonable" and "necessary" medical treatment costs after the employer becomes liable for a work-related injury. The Pennsylvania statute provides that a self-insured employer or private insurer of employers may withhold payments for treatment that the employer or insurer feels is not "reasonable" or "necessary" while a "utilization review organization" of private health care providers makes an independent determination. Although the State Workers' Compensation Bureau oversees all disputes, the Bureau does not have any authority over the utilization review organization and its final determination. Pennsylvania included this provision in its workers' compensation law to ensure that only appropriate medical expenses were being paid by the State and to control the overall costs of the program. The Supreme Court ruled that a private employer or insurer's decision to withhold medical payments and seek a utilization review was not a "State action" and thus was not subject to the due-process requirements of the 14th Amendment to the U.S. Constitution. The Court noted that State action requires both that the deprivation of a Constitutional right be caused by acts taken pursuant to State law and that the unconstitutional conduct be fairly attributable to the State. The Court also ruled that the Pennsylvania suspension procedure did not deprive employees of "property" under the 14th Amendment, because no such interest is conferred on workers' receiving medical payments until after the utilization board conducts its review and determines that such payments are reasonable and necessary. Because no property interest exists at the time payment is suspended, the Pennsylvania law is not subject to the 14th Amendment's due-process requirements.

In *UNUM Life Insurance Co. of America* v. *Ward*,[10] the High Court ruled that California's "notice-prejudice" rule is permitted under the Employee Retirement Income Security Act (ERISA) when a person submits a claim for long-term disability benefits. Under the rule, the insurer of an ERISA benefit plan may not deny benefits because of untimely notice or submission of a proof of claim, unless the insurer proves that it has suffered actual prejudice because of the delay. John Ward did not notify UNUM of his long-term disability claim within 30 days of the onset of his disability, nor did he submit written proof of the claim within 180 days of the onset. The company denied his claim on the ground that it was untimely. The Court ruled that the "notice-prejudice" rule is a law that regulates insurance rather than employee benefits and thus is not preempted by ERISA. That determination included findings that, from a "com-monsense view of the matter," the contested prescription regulates insurance. The Court also rejected UNUM's contention that the notice-prejudice rule conflicted with certain substantive ERISA provisions. On remand, UNUM must demonstrate that it was prejudiced by the delay before it can deny Ward's disability payment. □

Notes

[1] 42 U.S.C. § 12102(2).

[2] Case number 97–1943.

[3] 29 CFR pt. 1630, App. §1630.2(j); 28 CFR pt. 35, App. A, §35.104.

[4] 29 CFR pt. 1630, App. §1630.2(j).

[5] Case number 98–591.

[6] Case number 98–536.

[7] See "The Law at Work," *Monthly Labor Review*, January 1999, for summaries of these cases.

[8] Case number 97–303.

[9] Case number 97–2000.

[10] Case number 97–1868.

To the Editor:

I am somewhat puzzled by the terminology used by Michael K. Lettau and Thomas C. Buchmueller in their article, "Comparing benefit costs for full-time and part-time workers" (*Monthly Labor Review*, March 1999). The authors say that:

> Health insurance appears to be the only benefit representing a true "quasi-fixed cost" to employers, meaning that the cost per hour worked is greater for part-time employees than it is for full-time employees (page 30)

Table 1 in the article shows that the average cost per hour of health insurance is $0.05 less for part-time than for full-time workers. Why would the authors say that the cost per hour is more for part-time workers when the table shows that it is less?

To the extent the cost per hour is relatively constant for the two classes of workers ($1.56, compared with $1.61), does this not suggest that the cost per worker actually increases as the worker's hours increase? If so, then health insurance is a variable cost in the usual sense of the word "variable," not a fixed cost or even a quasi-fixed cost.

Maybe the authors should consider rephrasing their results in terms of progressivity and regressivity, rather than in terms of fixed and variable.

[signed] David M. Reaume
Economist
Juneau, Alaska

The authors reply:

Mr. Reaume is correct. The average cost per hour worked for health insurance is five cents lower for *all* part-time jobs with health insurance than for *all* full-time jobs with insurance. However, this comparison includes part-time and full-time jobs from a wide variety of circumstances.

We believe it is more meaningful to compare part-time and full-time jobs that are similar, apart from differences in scheduled hours. For this reason, we chose to emphasize results that account for differences in employer and job characteristics, either in a regression framework or by comparing full- and part-time jobs within the same establishment.

The regression results suggest the cost per hour worked for health insurance is 18 percent higher for the part-time jobs than for full-time jobs. The within-establishment comparison indicates that in most cases where full- and part-time workers receive health benefits, the annual cost for the two groups is identical, making the average cost per hour much higher for part-time workers.

These results, which represent the typical difference in costs faced by employers when they offer health insurance to full- and part-time workers, lead us to conclude that health insurance is partially, although not completely, prorated by hours worked. We acknowledge, however, that the unadjusted comparison of the average cost per hour may be appropriate for other purposes.

Technology and displacement

A fair amount of research has been conducted on the impact of foreign trade on job displacement and displaced workers. Far less research has been done on the impact of other fundamental causes of displacement, such as technological change, changes in demand patterns, or low firm productivity within an otherwise healthy part of the economy.

Daniel Aaronson and Kenneth Housinger seek to remedy this by analyzing the implications of technology on displacement. Writing in the second quarter 1999 issue of the Federal Reserve Bank of Chicago's *Economic Perspectives* journal, they find support for the idea that "displacement due to elimination of positions is more likely in high-tech industries, consistent with the notion that job destruction (and creation) is more common in technologically dynamic industries." There was less evidence of a connection between technological variables and other types of job displacement such as plant closings.

Aaronson and Housinger studied data on workers aged 30 to 59 from two supplements to the Current Population Survey—the Displaced Worker Survey and the Tenure Survey. The variables Aaronson and Housinger used as proxies for technological intensity included computer usage as reported in a 1993 supplement to the Current Population Survey, computer investment as a share of capital spending, the list of high-tech industries developed by William Luker, Jr. and Donald Lyons in the June 1997 issue of this *Review*, growth in output per hour, and the National Bureau of Economic Research data on total factor productivity in manufacturing. They are careful to note that many of the results of regressions are moderately sensitive to the particular measure of technology used. The results on probability of reemployment were especially susceptible to this effect.

Lottery prizes and life changes

How much would your life change if you won a substantial lottery prize? If you are like a typical participant in a recent study by Guido W. Imbens, Donald B. Rubin, and Bruce Sacerdote, winning $15,000 a year for 20 years would not have a major effect on your life. However, if you instead won $80,000 a year for 20 years, it would affect your labor force participation, automobile expenditures, the value of the home you own, and your savings, according to the study.

Imbens, Rubin, and Sacerdote, in Working Paper 7001 from the National Bureau of Economic Research, analyzed a survey that they conducted of 496 Massachusetts lottery winners. The survey participants were divided into three groups: winners of one-time prizes between $100 and $5,000; winners of a yearly amount of less than $25,000 for 20 years, with an average annual prize of $15,000; and winners of at least $25,000 a year for 20 years with an average prize of $80,000 annually.

The researchers found that a prize of $15,000 a year had little effect on the labor supply of the winners. However, they also found that winning $80,000 rather than $15,000 reduced labor supply significantly. Additionally, estimates by Imbens, Rubin, and Sacerdote indicated that, in this case, car values rose (by at least $5,500 on average), home values increased (by $30,000 on average), and savings went up (especially in the form of bonds and mutual funds).

Bequests and retirement

Other than winning the lottery, bequests and other cross-generation wealth transfers may be another way current workers might finance their retirement. According to an item in the *Economic Trends* newsletter published by the Federal Reserve Bank of Cleveland, baby-boomers in the labor force today are faced with "uncertain prospects" for Social Security and other sources of retirement income. As a result, we should question whether this large cohort can rely on bequests and other transfers to support their retirement consumption.

The Cleveland Fed's analysts say there are reasons to doubt that there will be much greater inheritances available than there were 35 years ago. First, the very size of the baby-boom cohort suggests that even if the parent generation's bequests are somewhat larger than before, they must be distributed among more siblings. Second, the parents are living longer, and thus consuming more of their savings. Third, greater spending on medical care exacerbates that consumption of wealth.

Using standard population and mortality data and making "reasonable assumptions" for the share of wealth that is passed on, the *Economic Trends* article says, "bequests are estimated to have grown just a little faster than labor compensation. That is, baby-boomers are not receiving substantially larger bequests relative to their labor compensation than did their counterparts in the 1960s." □

We are interested in your feedback on this column. Please let us know what you have found most interesting and what essential reading we may have missed. Write to: Executive Editor, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC. 20212, or e-mail MLR@bls.gov

American worklife

The American Work Ethic and the Changing Work Force: An Historical Perspective. By Herbert Applebaum. Westport, CT, Quorum Books, 1998, 228 pp. $59.95.

The American Work Ethic and the Changing Work Force provides a historical overview of American worklife and work attitudes. It begins during the colonial times and extends to the present. Herbert Applebaum, the author, classifies the American workforce in two ways—first by skill or trade, then by certain demographic characteristics. He expresses that the book's goal is to create a greater understanding of America's culture and characteristics through a historical discussion of the development of the work ethic.

Even though this easy-to-read chronology of American workers is an overview, it provides enough detail to allow readers to compare and contrast specific workers of different classes from different times. For example, this book shows how modern day semiprofessional white-collar workers (or, as the author calls them, gray-collar workers) suffer job cutbacks from automation and less challenging work from routinization, as did factory workers earlier in this century. Today, the cause is computers; then, the cause was assembly lines. Interestingly, the author highlights attitudes during periods of transition, so that readers can compare how workers of different classes from different times reacted to major workplace changes, such as the invention of railroads, assembly lines, banks, and computers.

The book is organized into three chapters: the Colonial period, the 19th century, and the 20th century. The author describes the Colonial times in the Northeastern United States as dominated by the Puritan work ethic. The New England colonists spurned luxury and instead lauded honest, hard work that contributed to the community. Men, women, and slaves were farmers, household producers, or craftspeople. They created complete products with little division of labor. Due to the paucity in population, many women worked alongside their husbands, and according to the author, many artisan slaves worked independently and were allowed to hire people and collect their own profits. Businesses were self-sufficient and autonomous—most were family centered. Work was oriented toward task rather than time, and job definitions and classifications were broad or nonexistent. The master-journeyman-apprentice system thrived. Applebaum infers that even though work was sometimes difficult and involved long hours, it gave people a positive sense of place in the community and a sense of pride. This, he believes was true even for the artisan slaves in the North; however, in the South, a more farm-based than craft-based region, slaves often were cruelly exploited.

The 19th century was a century of rapid growth and transition. Population exploded; America stretched to the Pacific Ocean and inventions followed each other in rapid succession. Some inventions were the telegraph, telephone, railroad, electric light, typewriter, and electric motor. Self-sufficient family businesses transformed into larger commercial businesses that hired wageworkers, calculated profits, and were dependent on banks, rails, and other businesses. Merchants used the "put-out" system where they supplied raw materials, paid workers piecewise to work at home, and marketed and sold the products. This became popular and eventually spawned factories. The author states that, in the beginning, workers were unused to the imposed time-centered discipline, division of labor, and authoritarian rule. They stiffly resisted factories. Manual laborers, craftsmen, and other wage earners yearned for more autonomy, self-fulfillment, respect, and leisure. However, they were fighting a losing battle against the need to increase production to serve growing demand. Farmers used new machinery, wage workers, railroads, and canals to produce and transport more for the swelling population. Slaves, officially freed in 1864, were doing anything to survive because an unfair and discriminatory society continued to limit their economic and political freedom.

Continuing the trends of the 19th century, the 20th century has been largely characterized by Henry Ford's invention of the assembly line and the proliferation of bureaucracies to manage huge factories. The author believes that factory workers, who forgot the Puritan past, gave up their struggle for respect, individuality, and autonomy by performing routinized and repetitive tasks in exchange for money, vacation, and other benefits. The author describes drastic changes that have taken place during the latter half of the century. Civil rights and the women's movement have opened up opportunities for a majority of American citizens. Office environments have spread because white-collar, government, and service work have experienced multiplicative growth, especially in the 1980s. Presently, computers and electronics are rapidly leading to sophisticated information storing, manipulation, and communication. Increasing global and domestic competition are leading to the dominance of larger companies due to economies of scale and downsizing to save on labor costs. According to the author, this is eroding the concept of company loyalty and trust. Continuing education and training are now seen as a necessity for not only job advancement, but also job retainment. The author states that Americans are working longer and few actually gain self-actualization from work. According to the author, this combination has created a new ethic that takes place after work, a leisure ethic.

Although this book tries to describe the values, attitudes, and ethics of American workers, it provides little hard evidence to substantiate its claims. Absent are diary excerpts, letters, newspaper clippings, or survey data. Instead, most of the discussion is based on an extensive collection of books, journals, and

essays, which are not footnoted in the text. Ironically, each section seems to be simplistic, and overall, too brief in comparison to the lengthy bibliography. However, the author does cite studies and statistics for describing employment trends in the 20th century. In addition, in the latter half of the book, the author expresses several personal views on what he sees as problems with the current American workforce. He believes that work should be intrinsically motivated through challenge, responsibility, and personal pride, and not extrinsically motivated through money, vacation time, or other benefits. He also believes that society has the obligation to provide people meaningful work by creating it and then giving people the education and training to succeed. More empirical data, case studies, and the citation of sources would have strengthened his ideas.

Applebaum raises the question regarding whether the majority of Americans will have work that increases self-esteem and self-actualization. He hopes that the introduction of decentralized decisionmaking, teams, social programs, and a flexible, diverse, and more educated workforce will lead Americans in that direction. Towards the end of the book, he expresses cynicism about the current situation, but is optimistic about the future. Instead of summarizing the historical changes in the American work ethic, Applebaum seems to lobby for more government programs in education and training. Overall, *The American Work Ethic and the Changing Work Force* accomplishes its purpose as a credible, insightful introduction to the history of American work ethic and work life.

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Errata

In the article, "Cooperative provisions in labor agreements: a new paradigm?" (*Monthly Labor Review*, January 1999), table 2 on page 33 contains erroneous data for Stage 1 and Stage 2 provisions. The correct data are shown below:

Table 2. Incidence of cooperative clauses in private-sector collective bargaining agreements expiring between September 1, 1997, and September 30, 2007

Provision	Number of contracts	Percent of all contracts	Percent of all employees
Stage 1:			
Statement of intent to cooperate only	150	14.4	9.6
Stage 2:			
Joint committee to review issues	163	15.7	16.0
Total at stages 1 and 2 only	160	15.4	13.1

Hence, on page 33, the first complete sentence in the second column should read (corrections in bold):

There are **150** agreements that have established only an intent to cooperate. . . .

Joint committees (stage 2). There are **163** contracts that establish a labor-management committee that meets on a regular basis. . . .

On page 34, the second complete sentence in column 1 should read (corrections in bold):

...As shown in table 2, this number represents **15.4** percent of the total agreements analyzed and **13.1** percent of the employees covered under the agreements. . . .

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This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 39, and 43. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 1999 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 1998 *Review* and reflect the experience through March 1998. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 45 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://stats.bls.gov/cpshome.htm

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://stats.bls.gov/ceshome.htm

Additional information on labor force data for areas below the national level are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment.*

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95*, BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments.*

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI, see the December 1996 issue of the *Monthly Labor Review*. Additional data on international prices appear in monthly news releases.

Listings of industries for which productivity indexes are available may be found on the Internet:

http://stats.bls.gov/iprhome.htm

For additional information on international comparisons data, see *International Comparisons of Unemployment*, BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry*, a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2.

Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 50,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the beginning of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. The historical seasonally adjusted data usually are revised for only the most recent 5 years. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

Revisions in the household survey

Data beginning in 1999 are not strictly comparable with data for 1998 and earlier years because of the introduction of revised population controls. Additional information appears in the February 1999 issue of *Employment and Earnings*.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 606–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 390,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining;

construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1997 benchmarks, was made with the release of May 1998 data, published in the July 1998 issue of the *Review*. Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors and refinement in the seasonal adjustment procedures. Unadjusted data from April 1997 forward and seasonally adjusted data from January 1994 forward are subject to revision in future benchmarks.

Revisions in State data (table 11) occurred with the publication of January 1999 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 606–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 606–6392 (table 10) or (202) 606–6559 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–27)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensa-

tion, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://stats.bls.gov/ecthome.htm

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 606–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 9,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid family leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit (if any), and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of coverage within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small private establishments were conducted in even-numbered years, and surveys of medium and large establishments were conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends (202) 606–6222 or the Internet:

http://stats.bls.gov/ebshome.htm

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of work time lost because of stoppage. These data are presented in table 27.

Data are largely from a variety of published sources and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 work-

ers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation and Working Conditions: (202) 606–6282, or the Internet:

http://stats.bls.gov/cbahome.htm

Price Data

(Tables 2; 28–38)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 29. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 606–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 606–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports

and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1990.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f.(costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 606–7155.

Productivity Data

(Tables 2; 39–42)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per hour, output per unit of labor input, or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business services.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost mea-

sures in tables 39–42 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 606–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

The **labor input** series consist of the hours of all employees (production and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some transportation industries, only indexes of output per employee are prepared. For some trade and service industries, indexes of output per hour of all persons (including self-employed) are constructed.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 606–5618.

International Comparisons

(Tables 43–45)

Labor force and unemployment

Description of the series

Tables 43 and 44 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Canada, Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994), France (1992), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. Therefore, data for 1994 onward are not directly comparable with data for 1993 and earlier years because of the redesign, and data for 1990 onward are not directly comparable with data for 1989 and earlier years because of the introduction of the 1990 census-based population controls, adjusted for the undercount. See the Notes section on Employment and Unemployment Data of this *Review*.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.6 percentage point in 1995.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodol-

ogy was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. By 1994, the adjusted unemployment rate had risen from 7.8 to 9.6 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Manufacturing productivity and labor costs

Description of the series

Table 45 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production. While methods of deriving national accounts measures differ from country to country, BLS has reviewed these methods and determined that the series are sufficiently comparable for measuring comparative trends in productivity and unit labor costs.

The 1977–94 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977. The 1994–95 percent changes in manufacturing output are based on the trend shown by the industrial production index published by the U.S. Federal Reserve Board for the manufacturing sector.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1996. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 39 and 41 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–96; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For France and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons

measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Occupational Injury and Illness Data

(Tables 46–47)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 606–6180, or access the Internet at:

http://www.bls.gov/oshhome.htm

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local govern-

ment workers are covered by the program. To be included in the fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity, or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 606–6175, or the Internet at:

http://www.bls.gov/oshhome.htm

1. Labor market indicators

Selected indicators	1997	1998	1997				1998				1999
			I	II	III	IV	I	II	III	IV	I
Employment data											
Employment status of the civilian noninstitutionalized population (household survey):[1]											
Labor force participation rate	67.1	67.1	67.0	67.1	67.1	67.1	67.2	67.0	67.0	67.1	67.3
Employment-population ratio	63.8	64.1	63.5	63.8	63.9	63.9	64.1	64.1	64.0	64.1	64.4
Unemployment rate	4.9	4.5	5.2	5.0	4.9	4.7	4.6	4.4	4.5	4.4	4.3
Men	4.9	4.4	5.2	4.9	4.8	4.7	4.5	4.3	4.5	4.3	4.1
16 to 24 years	11.8	11.1	12.3	11.6	11.7	11.5	11.3	10.7	11.5	10.7	10.3
25 years and over	3.6	3.2	3.9	3.7	3.5	3.4	3.3	3.1	3.2	3.2	3.0
Women	5.0	4.6	5.3	5.1	5.0	4.7	4.8	4.6	4.6	4.5	4.4
16 to 24 years	10.7	9.8	11.4	11.0	10.4	10.1	10.1	9.6	9.9	9.4	9.9
25 years and over	3.9	3.6	4.1	3.9	4.0	3.6	3.8	3.6	3.5	3.6	3.4
Employment, nonfarm (payroll data), in thousands:[1]											
Total	122,690	125,826	121,447	122,294	123,006	123,946	124,771	125,462	126,113	126,865	127,640
Private sector	103,133	106,007	101,984	102,787	103,422	104,311	105,094	105,707	106,260	106,920	107,596
Goods-producing	24,962	25,347	24,771	24,883	25,008	25,181	25,363	25,393	25,306	25,319	25,310
Manufacturing	18,675	18,772	18,575	18,626	18,698	18,805	18,876	18,851	18,719	18,645	18,542
Service-producing	97,727	100,480	96,676	97,410	97,998	98,765	99,409	100,070	100,807	101,545	102,331
Average hours:											
Private sector	34.6	34.6	34.6	34.6	34.6	34.6	34.7	34.6	34.6	34.6	34.6
Manufacturing	42.0	41.7	41.9	42.0	42.0	42.1	42.0	41.7	41.7	41.7	41.6
Overtime	4.8	4.6	4.8	4.8	4.8	4.9	4.8	4.6	4.5	4.5	4.5
Employment Cost Index[2]											
Percent change in the ECI, compensation:											
All workers (excluding farm, household and Federal workers)	3.3	3.4	.8	.6	1.0	.8	.8	.8	1.2	.6	.4
Private industry workers	3.4	3.5	.8	.8	.8	.9	.9	.9	1.1	.6	.4
Goods-producing[3]	2.4	2.8	.4	1.0	.7	.4	.7	.8	.7	.5	.8
Service-producing[3]	3.9	3.8	1.1	.7	1.0	1.1	1.0	.8	1.3	.6	.3
State and local government workers	2.3	3.0	.4	.1	1.3	.5	.6	.3	1.5	.6	.5
Workers by bargaining status (private industry):											
Union	2.1	3.0	.2	.6	1.1	.2	.4	1.0	1.1	.5	.4
Nonunion	3.8	3.5	1.1	.8	.8	1.0	1.0	.8	1.1	.6	.5

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

NOTE: Dash indicates data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1997	1998	1997				1998				1999
			I	II	III	IV	I	II	III	IV	I
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.3	3.4	0.8	0.6	1.0	0.8	0.8	0.8	1.2	0.6	0.4
Private nonfarm	3.4	3.5	.8	.8	.8	.9	.9	.9	1.1	.6	.4
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.8	3.7	.9	.7	1.2	.9	.9	.7	1.3	.7	.5
Private nonfarm	3.9	3.9	1.0	.9	1.0	1.0	1.1	.9	1.3	.6	.5
Price data[1]											
Consumer Price Index (All Urban Consumers): All items	1.7	1.6	.9	.2	.6	.1	.6	.5	.4	.2	.7
Producer Price Index:											
Finished goods	−1.2	.0	−.5	−.4	.2	−.5	−.8	.5	−.1	.4	.1
Finished consumer goods	−1.4	.0	−.6	−.2	.4	−.8	−1.0	.8	.0	.2	.2
Capital equipment	−.6	.0	.1	−.5	−.7	.5	.0	−.5	−.4	.9	−.1
Intermediate materials, supplies, and components	−.8	−3.3	−.3	.1	.2	−.8	−1.4	.2	−.5	−1.6	−.1
Crude materials	−11.3	−16.7	−11.5	−.4	1.3	−.6	−8.8	−1.8	−5.6	−2.4	−.3
Productivity data[3]											
Output per hour of all persons:											
Business sector	1.5	2.4	.7	1.8	3.6	.8	4.1	.1	2.6	4.6	4.7
Nonfarm business sector	1.2	2.2	.1	1.6	3.4	.9	3.6	.3	2.5	4.3	4.0
Nonfinancial corporations[4]	2.5	3.0	1.3	2.3	5.6	1.0	2.7	3.1	4.4	3.3	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

NOTE: Dash indicates data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ending—					
	1997	1998				1999	1997	1998				1999
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	5.2	5.0	4.1	3.7	4.4	5.2	3.8	4.1	4.6	4.5	4.3	4.4
All persons, nonfarm business sector	4.9	4.7	4.1	3.9	4.0	4.3	3.7	3.9	4.4	4.4	4.2	4.1
Employment Cost Index—compensation:												
Civilian nonfarm[2]	.8	.8	.8	1.2	.6	.4	3.3	3.3	3.5	3.7	3.4	3.0
Private nonfarm	.9	.9	.9	1.1	.6	.4	3.4	3.5	3.5	3.8	3.5	3.0
Union	.2	.4	1.0	1.1	.5	.4	2.1	2.3	2.7	2.7	3.0	3.0
Nonunion	1.0	1.0	.8	1.1	.6	.5	3.8	3.7	3.8	4.0	3.5	3.0
State and local governments	.5	.6	.3	1.5	.6	.5	2.3	2.5	2.7	3.0	3.0	2.9
Employment Cost Index—wages and salaries:												
Civilian nonfarm[2]	.9	.9	.7	1.3	.7	.5	3.8	3.7	3.8	4.0	3.7	3.3
Private nonfarm	1.0	1.1	.9	1.3	.6	.5	3.9	4.0	4.0	4.3	3.9	3.3
Union	.5	.5	.8	1.3	.5	.4	2.8	2.9	3.0	3.2	3.3	3.1
Nonunion	1.1	1.1	.9	1.3	.7	.5	4.2	4.2	4.1	4.4	4.0	3.3
State and local governments	.6	.5	.2	1.6	.7	.4	2.7	2.8	3.0	3.0	3.1	2.9

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

[2] Excludes Federal and household workers.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Civilian noninstitutional population[1]	203,133	205,220	204,899	205,085	205,270	205,497	205,699	205,919	206,104	206,270	206,719	206,873	207,036	207,236	207,427
Civilian labor force	136,297	137,673	137,369	137,498	137,407	137,481	138,081	138,116	138,193	138,547	139,347	139,271	138,816	139,091	139,019
Participation rate	67.1	67.1	67.0	67.0	66.9	66.9	67.1	67.1	67.1	67.2	67.4	67.3	67.0	67.1	67.0
Employed	129,558	131,463	131,330	131,253	131,176	131,264	131,818	131,858	132,113	132,526	133,396	133,144	133,033	133,069	133,224
Employment-population ratio[2]	63.8	64.1	64.1	64.0	63.9	63.9	64.1	64.0	64.1	64.2	64.5	64.4	64.3	64.2	64.2
Unemployed	6,739	6,210	6,039	6,245	6,231	6,217	6,263	6,258	6,080	6,021	5,950	6,127	5,783	6,022	5,795
Unemployment rate	4.9	4.5	4.4	4.5	4.5	4.5	4.5	4.5	4.4	4.3	4.3	4.4	4.2	4.3	4.2
Not in the labor force	66,837	67,547	67,530	67,587	67,863	67,998	67,618	67,803	67,911	67,723	67,372	67,602	68,220	68,145	68,408
Men, 20 years and over															
Civilian noninstitutional population[1]	89,879	90,790	90,622	90,700	90,802	90,889	91,003	91,101	91,192	91,220	91,124	91,189	91,215	91,302	91,368
Civilian labor force	69,166	69,715	69,608	69,590	69,738	69,518	69,869	69,913	70,023	70,069	70,295	70,174	69,951	69,991	69,932
Participation rate	77.0	76.8	76.8	76.7	76.8	76.5	76.8	76.7	76.8	76.8	77.1	77.0	76.7	76.7	76.5
Employed	66,284	67,135	67,084	66,994	67,056	66,940	67,252	67,362	67,573	67,553	67,884	67,577	67,713	67,608	67,399
Employment-population ratio[2]	73.7	73.9	74.0	73.9	73.8	73.7	73.9	73.9	74.1	74.1	74.5	74.1	74.2	74.0	73.8
Agriculture	2,356	2,350	2,331	2,337	2,382	2,420	2,402	2,449	2,374	2,237	2,312	2,212	2,222	2,353	2,212
Nonagricultural industries	63,927	64,785	64,753	64,657	64,674	64,520	64,860	64,913	65,199	65,316	65,572	65,365	65,492	65,255	65,186
Unemployed	2,882	2,580	2,524	2,596	2,682	2,578	2,607	2,551	2,450	2,516	2,411	2,598	2,238	2,383	2,534
Unemployment rate	4.2	3.7	3.6	3.7	3.8	3.7	3.7	3.6	3.5	3.6	3.4	3.7	3.2	3.4	3.6
Women, 20 years and over															
Civilian noninstitutional population[1]	97,889	98,786	98,668	98,735	98,778	98,901	98,994	99,037	99,135	99,181	99,686	99,746	99,833	99,923	100,008
Civilian labor force	59,198	59,198	59,583	59,613	59,469	59,708	59,804	59,826	59,896	60,078	60,718	60,622	60,533	60,788	60,729
Participation rate	60.5	60.4	60.4	60.4	60.2	60.4	60.4	60.4	60.4	60.6	60.9	60.8	60.6	60.8	60.7
Employed	56,613	57,278	57,235	57,190	57,078	57,295	57,426	57,437	57,503	57,745	58,466	58,291	58,183	58,320	58,520
Employment-population ratio[2]	57.8	58.0	58.0	57.9	57.8	57.9	58.0	58.0	58.0	58.2	58.7	58.4	58.3	58.4	58.5
Agriculture	798	768	767	763	781	806	767	771	734	753	808	839	834	801	831
Nonagricultural industries	55,815	56,510	56,468	56,427	56,297	56,489	56,659	56,666	56,769	56,992	57,659	57,452	57,349	57,519	57,689
Unemployed	2,585	2,424	2,348	2,423	2,387	2,413	2,378	2,389	2,393	2,333	2,251	2,330	2,350	2,468	2,209
Unemployment rate	4.4	4.1	3.9	4.1	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.8	3.9	4.1	3.6
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	15,365	15,644	15,609	15,651	15,690	15,689	15,702	15,781	15,777	15,777	15,909	15,939	15,988	16,011	16,051
Civilian labor force	7,932	8,256	8,178	8,295	8,204	8,255	8,408	8,377	8,274	8,400	8,334	8,475	8,331	8,312	8,358
Participation rate	51.6	52.8	52.4	53.0	52.3	52.6	53.5	53.1	52.4	52.9	52.4	53.2	52.1	51.9	52.1
Employed	6,661	7,051	7,011	7,069	7,042	7,029	7,130	7,059	7,037	7,228	7,046	7,276	7,136	7,141	7,306
Employment-population ratio[2]	43.4	45.1	44.9	45.2	44.9	44.8	45.4	44.7	44.6	45.5	44.3	45.7	44.6	44.6	45.5
Agriculture	244	261	253	263	260	266	301	338	240	232	179	277	224	230	252
Nonagricultural industries	6,417	6,790	6,758	6,806	6,782	6,763	6,829	6,721	6,797	6,996	6,867	6,999	6,912	6,911	7,054
Unemployed	1,271	1,205	1,167	1,226	1,162	1,226	1,278	1,318	1,237	1,172	1,288	1,199	1,195	1,171	1,052
Unemployment rate	16.0	14.6	14.3	14.8	14.2	14.9	15.2	15.7	15.0	14.0	15.5	14.1	14.3	14.1	12.6
White															
Civilian noninstitutional population[1]	169,993	171,478	171,257	171,387	171,513	171,655	171,804	171,956	172,084	172,197	172,394	172,491	172,597	172,730	172,859
Civilian labor force	114,693	115,415	115,312	115,208	115,071	115,385	115,751	115,714	115,687	115,996	116,529	116,610	116,284	116,370	116,254
Participation rate	67.5	67.3	67.3	67.2	67.1	67.2	67.4	67.3	67.2	67.4	67.6	67.6	67.4	67.4	67.3
Employed	109,856	110,931	110,959	110,638	110,676	110,848	111,221	111,162	111,304	111,560	112,135	112,189	112,144	111,917	111,985
Employment-population ratio[2]	64.6	64.7	64.8	64.6	64.5	64.6	64.7	64.6	64.7	64.8	65.0	65.0	65.0	64.8	64.8
Unemployed	4,836	4,484	4,353	4,570	4,395	4,537	4,530	4,552	4,383	4,436	4,394	4,420	4,140	4,454	4,269
Unemployment rate	4.2	3.9	3.8	4.0	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.6	3.8	3.7
Black															
Civilian noninstitutional population[1]	24,003	24,373	24,317	24,349	24,381	24,418	24,458	24,496	24,529	24,529	24,665	24,697	24,729	24,765	24,798
Civilian labor force	15,529	15,982	15,760	16,025	16,045	15,937	16,027	16,163	16,201	16,157	16,356	16,242	16,212	16,286	16,303
Participation rate	64.7	65.6	64.8	65.8	65.8	65.3	65.5	66.0	66.0	65.8	66.3	65.8	65.6	65.8	65.7
Employed	13,969	14,556	14,351	14,662	14,511	14,517	14,584	14,776	14,804	14,884	15,085	14,900	14,904	15,029	15,079
Employment-population ratio[2]	58.2	59.7	59.0	60.2	59.5	59.5	59.6	60.3	60.4	60.6	61.2	60.3	60.3	60.7	60.8
Unemployed	1,560	1,426	1,409	1,363	1,534	1,420	1,443	1,387	1,397	1,273	1,271	1,342	1,308	1,257	1,224
Unemployment rate	10.0	8.9	8.9	8.5	9.6	8.9	9.0	8.6	8.6	7.9	7.8	8.3	8.1	7.7	7.5

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Hispanic origin															
Civilian noninstitutional population[1]	20,321	21,070	20,975	21,036	21,097	21,159	21,224	21,286	21,349	21,405	21,296	21,355	21,414	21,483	21,548
Civilian labor force	13,796	14,317	14,378	14,375	14,267	14,316	14,457	14,437	14,389	14,488	14,511	14,591	14,570	14,543	14,535
Participation rate	67.9	67.9	68.5	68.3	67.6	67.7	68.1	67.8	67.4	67.7	68.1	68.3	68.0	67.7	67.5
Employed	12,726	13,291	13,387	13,301	13,245	13,257	13,394	13,382	13,345	13,383	13,550	13,610	13,732	13,541	13,558
Employment-population ratio[2]	62.6	63.1	63.8	63.2	62.8	62.7	63.1	62.9	62.5	62.5	63.6	63.7	64.1	63.0	62.9
Unemployed	1,069	1,026	991	1,074	1,022	1,059	1,063	1,055	1,044	1,105	960	980	838	1,002	977
Unemployment rate	7.7	7.2	6.9	7.5	7.2	7.4	7.4	7.3	7.3	7.6	6.6	6.7	5.8	6.9	6.7

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Characteristic															
Employed, 16 years and over	129,558	131,463	131,330	131,253	131,176	131,264	131,818	131,858	132,113	132,526	133,396	133,144	133,033	133,069	133,224
Men	69,685	70,693	70,603	70,592	70,629	70,503	70,841	70,925	71,182	71,204	71,459	71,276	71,352	71,225	71,198
Women	59,873	60,771	60,727	60,661	60,547	60,761	60,977	60,933	60,931	61,322	61,937	61,869	61,680	61,845	62,026
Married men, spouse present	42,642	42,923	42,560	42,648	42,850	42,874	43,170	43,090	43,209	43,227	43,542	43,016	43,114	43,190	42,882
Married women, spouse present	32,755	32,872	32,815	32,820	32,719	32,670	32,891	33,037	32,953	33,093	33,652	33,092	33,134	33,285	33,487
Women who maintain families	7,775	7,904	7,854	7,909	7,875	7,928	7,984	7,940	7,969	8,087	8,076	8,113	8,148	8,050	8,039
Class of worker															
Agriculture:															
Wage and salary workers	1,890	2,000	1,920	1,857	2,010	2,111	2,145	2,247	2,005	1,912	1,987	1,895	1,893	1,908	1,919
Self-employed workers	1,457	1,341	1,391	1,445	1,374	1,342	1,290	1,282	1,304	1,304	1,298	1,381	1,376	1,439	1,348
Unpaid family workers	51	38	50	44	32	31	40	33	40	34	30	44	39	31	33
Nonagricultural industries:															
Wage and salary workers	116,983	119,019	118,852	118,733	118,647	118,840	119,148	119,275	119,718	120,380	121,115	121,066	121,005	120,785	121,168
Government	18,131	18,383	18,162	18,467	18,374	18,332	18,448	18,547	18,607	18,686	18,913	18,782	18,699	18,709	18,672
Private industries	98,852	100,637	100,690	100,266	100,273	100,508	100,700	100,728	101,111	101,694	102,202	102,283	102,306	102,076	102,496
Private households	915	962	992	962	966	871	918	946	969	943	881	849	917	941	910
Other	97,937	99,674	99,698	99,304	99,307	99,637	99,782	99,782	100,142	100,751	101,321	101,434	101,389	101,135	101,586
Self-employed workers	9,056	8,962	9,012	8,971	9,060	8,955	9,096	9,030	8,929	8,814	8,830	8,658	8,650	8,813	8,687
Unpaid family workers	120	103	95	97	91	88	88	95	112	122	121	114	125	63	60
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,068	3,665	3,754	3,792	3,757	3,503	3,419	3,404	3,340	3,417	3,562	3,426	3,564	3,408	3,422
Slack work or business conditions	2,286	2,095	2,119	2,183	2,299	2,019	1,913	2,031	1,910	1,927	2,093	1,984	2,045	1,920	1,946
Could only find part-time work	1,468	1,258	1,317	1,248	1,213	1,188	1,168	1,136	1,157	1,148	1,115	1,141	1,208	1,124	1,137
Part time for noneconomic reasons	18,149	18,530	18,544	18,619	18,589	18,653	18,687	18,667	18,634	18,674	18,485	18,642	18,545	18,882	18,632
Nonagricultural industries:															
Part time for economic reasons	3,879	3,501	3,608	3,618	3,606	3,339	3,191	3,253	3,191	3,257	3,413	3,298	3,374	3,224	3,247
Slack work or business conditions	2,167	1,997	2,033	2,102	2,193	1,926	1,800	1,927	1,824	1,841	1,989	1,906	1,955	1,831	1,838
Could only find part-time work	1,433	1,228	1,286	1,210	1,182	1,155	1,132	1,110	1,130	1,116	1,094	1,108	1,159	1,092	1,111
Part time for noneconomic reasons	17,564	17,954	17,956	17,992	17,982	18,031	18,161	18,107	18,110	18,155	17,921	18,061	17,944	18,320	18,098

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Characteristic															
Total, all workers	4.9	4.5	4.4	4.5	4.5	4.5	4.5	4.5	4.4	4.3	4.3	4.4	4.2	4.3	4.2
Both sexes, 16 to 19 years	16.0	14.6	14.3	14.8	14.2	14.9	15.2	15.7	15.0	14.0	15.5	14.1	14.3	14.1	12.6
Men, 20 years and over	4.2	3.7	3.6	3.7	3.8	3.7	3.7	3.6	3.5	3.6	3.4	3.7	3.2	3.4	3.6
Women, 20 years and over	4.4	4.1	3.9	4.1	4.0	4.0	4.0	4.0	4.0	3.9	3.7	3.8	3.9	4.1	3.6
White, total	4.2	3.9	3.8	4.0	3.8	3.9	3.9	3.9	3.8	3.8	3.8	3.8	3.6	3.8	3.7
Both sexes, 16 to 19 years	13.6	12.6	12.2	13.4	11.5	12.9	12.8	13.5	13.0	12.6	13.0	11.8	11.9	12.1	11.0
Men, 16 to 19 years	14.3	14.1	14.0	14.4	13.2	14.2	14.7	14.1	14.1	14.5	14.1	12.2	12.7	12.6	11.9
Women, 16 to 19 years	12.8	10.9	10.1	12.3	9.7	11.5	10.8	13.0	11.6	10.6	11.9	11.4	11.1	11.6	10.1
Men, 20 years and over	3.6	3.2	3.2	3.3	3.3	3.3	3.3	3.2	3.1	3.2	3.1	3.3	2.8	3.0	3.2
Women, 20 years and over	3.7	3.4	3.3	3.4	3.4	3.5	3.4	3.4	3.4	3.3	3.3	3.2	3.3	3.6	3.2
Black, total	10.0	8.9	8.9	8.5	9.6	8.9	9.0	8.6	8.6	7.9	7.8	8.3	8.1	7.7	7.5
Both sexes, 16 to 19 years	32.4	27.6	29.9	22.5	28.7	28.1	29.2	28.7	27.5	22.4	29.8	29.2	31.0	28.1	24.1
Men, 16 to 19 years	36.5	30.1	31.2	22.4	30.2	29.7	32.7	34.7	33.0	27.3	34.2	31.6	32.9	33.0	26.2
Women, 16 to 19 years	28.7	25.3	27.4	22.6	27.0	26.8	25.7	23.5	22.1	17.6	25.0	27.0	29.1	23.5	22.0
Men, 20 years and over	8.5	7.4	6.9	7.1	8.7	7.6	7.1	6.9	7.0	6.7	5.9	6.7	5.8	6.1	6.6
Women, 20 years and over	8.8	7.9	8.3	7.8	7.9	7.6	7.9	7.5	7.6	7.0	6.6	7.1	7.2	6.8	6.4
Hispanic origin, total	7.7	7.2	6.9	7.5	7.2	7.4	7.4	7.3	7.3	7.6	6.6	6.7	5.8	6.9	6.7
Married men, spouse present	2.7	2.4	2.4	2.2	2.3	2.3	2.3	2.3	2.2	2.3	2.3	2.4	2.1	2.3	2.4
Married women, spouse present	3.1	2.9	2.8	2.9	2.8	3.1	2.7	2.8	2.9	2.8	2.8	2.8	2.7	2.9	2.5
Women who maintain families	8.1	7.2	7.5	7.1	6.9	6.8	7.6	6.9	6.9	6.3	6.1	6.5	6.7	7.2	6.0
Full-time workers	4.8	4.3	4.3	4.4	4.4	4.4	4.3	4.3	4.2	4.2	4.1	4.3	4.0	4.2	4.0
Part-time workers	5.5	5.3	4.9	5.2	5.2	5.3	5.3	5.5	5.4	5.2	5.2	4.9	4.9	4.9	5.1
Industry															
Nonagricultural wage and salary workers	5.0	4.6	4.5	4.6	4.6	4.7	4.8	4.6	4.5	4.4	4.3	4.3	4.2	4.4	4.2
Mining	3.8	3.2	1.6	4.0	3.9	3.6	3.0	2.4	2.2	4.3	7.4	7.7	5.3	9.3	5.9
Construction	9.0	7.5	8.0	7.9	6.8	7.4	8.6	6.7	7.0	6.4	7.3	7.5	6.7	7.4	7.2
Manufacturing	4.2	3.9	3.6	3.6	4.3	3.9	4.0	3.9	3.8	4.0	3.5	3.7	3.4	3.3	3.4
Durable goods	3.5	3.4	3.0	3.0	4.1	3.5	3.7	3.2	3.2	3.4	3.4	3.3	2.9	3.1	3.3
Nondurable goods	5.1	4.7	4.6	4.6	4.6	4.5	4.6	5.1	4.8	4.9	3.8	4.3	4.1	3.7	3.6
Transportation and public utilities	3.5	3.4	3.1	3.5	3.4	3.5	3.5	3.5	3.2	3.2	2.5	3.2	2.9	2.8	3.3
Wholesale and retail trade	6.2	5.5	5.3	5.6	5.6	5.6	5.7	5.6	5.2	5.5	5.2	5.2	5.4	5.4	5.3
Finance, insurance, and real estate	3.0	2.5	2.1	2.2	2.1	2.7	2.4	2.5	2.8	2.8	2.4	2.4	1.9	3.2	2.1
Services	4.6	4.5	4.7	4.6	4.6	4.7	4.5	4.7	4.6	4.1	4.1	4.0	4.2	4.1	3.9
Government workers	2.6	2.3	2.4	2.2	2.4	2.2	2.2	2.2	2.1	2.0	2.2	2.3	2.1	2.5	2.6
Agricultural wage and salary workers	9.1	8.3	8.0	8.4	8.2	7.4	7.9	6.7	7.6	8.3	9.6	11.3	9.5	9.7	10.7
Educational attainment[1]															
Less than a high school diploma	8.1	7.1	6.9	7.1	7.1	7.1	6.9	6.9	7.1	7.0	7.4	7.5	6.1	6.6	6.7
High school graduates, no college	4.3	4.0	3.8	4.0	4.1	4.0	4.0	4.0	3.9	3.8	3.5	3.4	3.4	3.5	3.6
Some college, less than a bachelor's degree	3.3	3.0	3.1	2.9	3.0	2.8	3.0	3.0	2.8	2.8	2.9	3.1	2.8	3.0	2.8
College graduates	2.0	1.8	1.7	1.8	1.7	1.8	1.7	1.9	1.8	1.8	1.8	1.9	1.9	2.1	1.9

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Less than 5 weeks	2,538	2,622	2,608	2,553	2,626	2,652	2,638	2,754	2,546	2,614	2,353	2,601	2,478	2,788	2,467
5 to 14 weeks	2,138	1,950	1,967	2,022	1,975	1,956	1,968	1,896	1,983	1,839	2,071	1,944	1,891	1,867	1,816
15 weeks and over	2,062	1,637	1,509	1,641	1,606	1,644	1,636	1,598	1,611	1,578	1,469	1,550	1,434	1,446	1,523
15 to 26 weeks	995	763	671	833	783	810	732	732	752	754	753	766	736	773	794
27 weeks and over	1,067	875	838	808	823	834	904	866	859	824	716	784	697	673	729
Mean duration, in weeks	15.8	14.5	14.7	14.1	14.3	13.7	14.3	14.1	14.4	14.1	13.4	13.8	13.5	13.1	13.4
Median duration, in weeks	8.0	6.7	6.1	6.7	6.7	6.8	6.6	5.9	6.7	6.7	6.9	7.0	6.9	6.1	6.7

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Job losers[1]	3,037	2,822	2,822	2,832	2,865	2,834	2,865	2,813	2,758	2,754	2,696	2,738	2,563	2,700	2,663
On temporary layoff	931	866	816	851	931	937	909	857	850	841	864	849	812	838	821
Not on temporary layoff	2,106	1,957	2,006	1,981	1,934	1,897	1,956	1,956	1,908	1,913	1,832	1,889	1,751	1,862	1,842
Job leavers	795	734	749	754	770	734	727	730	677	709	699	751	780	841	789
Reentrants	2,338	2,132	2,081	2,112	2,072	2,124	2,161	2,142	2,130	2,031	1,993	2,110	1,988	2,044	2,040
New entrants	569	520	505	517	474	507	501	577	534	504	537	509	431	469	415
Percent of unemployed															
Job losers[1]	45.1	45.5	45.8	45.6	46.4	45.7	45.8	44.9	45.2	45.9	45.5	44.8	44.5	44.6	45.1
On temporary layoff	13.8	13.9	13.3	13.7	15.1	15.1	14.5	13.7	13.9	14.0	14.6	13.9	14.1	13.9	13.9
Not on temporary layoff	31.3	31.5	32.6	31.9	31.3	30.6	31.3	31.2	31.3	31.9	30.9	30.9	30.4	30.8	31.2
Job leavers	11.8	11.8	12.2	12.1	12.5	11.8	11.6	11.7	11.1	11.8	11.8	12.3	13.5	13.9	13.4
Reentrants	34.7	34.3	33.8	34.0	33.5	34.3	34.6	34.2	34.9	33.9	33.6	34.5	34.5	33.8	34.5
New entrants	8.4	8.4	8.2	8.3	7.7	8.2	8.0	9.2	8.8	8.4	9.1	8.3	7.5	7.7	7.0
Percent of civilian labor force															
Job losers[1]	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.9	2.0	1.8	1.9	1.9
Job leavers	.6	.5	.5	.5	.6	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6
Reentrants	1.7	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.4	1.5	1.4	1.5	1.5
New entrants	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total, 16 years and over	4.9	4.5	4.4	4.5	4.5	4.5	4.5	4.5	4.4	4.3	4.3	4.4	4.2	4.3	4.2
16 to 24 years	11.3	10.4	10.2	10.6	10.4	10.8	10.9	10.5	9.9	9.8	10.1	10.2	10.0	10.0	9.4
16 to 19 years	16.0	14.6	14.3	14.8	14.2	14.9	15.2	15.7	15.0	14.0	15.5	14.1	14.3	14.1	12.6
16 to 17 years	18.2	17.2	16.3	18.0	15.7	17.1	17.6	18.2	18.0	16.9	18.4	15.5	16.6	16.9	15.9
18 to 19 years	14.5	12.8	13.1	12.6	13.1	13.5	13.5	14.0	13.0	12.1	13.1	13.1	12.8	12.3	10.6
20 to 24 years	8.5	7.9	7.7	8.1	8.2	8.4	8.2	7.3	6.9	7.2	6.9	7.7	7.4	7.6	7.5
25 years and over	3.8	3.4	3.3	3.4	3.4	3.3	3.4	3.4	3.3	3.3	3.2	3.3	3.1	3.2	3.2
25 to 54 years	3.9	3.5	3.4	3.5	3.5	3.5	3.5	3.5	3.4	3.4	3.3	3.4	3.1	3.3	3.2
55 years and over	3.0	2.7	2.5	2.6	2.8	2.6	2.7	2.7	3.0	3.0	2.9	2.9	2.9	2.9	2.6
Men, 16 years and over	4.9	4.4	4.3	4.4	4.5	4.4	4.5	4.4	4.3	4.3	4.2	4.3	3.9	4.1	4.2
16 to 24 years	11.8	11.1	11.1	11.1	11.3	11.3	11.9	10.9	10.3	10.8	10.7	10.1	9.9	10.5	10.2
16 to 19 years	16.9	16.2	15.9	15.9	15.9	15.9	17.4	16.7	16.5	16.4	16.9	14.6	15.0	14.8	13.3
16 to 17 years	19.1	19.1	18.3	20.5	18.0	18.9	20.2	20.9	20.0	19.9	19.7	15.3	16.9	19.2	17.7
18 to 19 years	15.4	14.1	14.5	12.9	14.3	14.2	15.1	13.7	14.4	14.0	14.7	14.1	13.6	12.2	10.6
20 to 24 years	8.9	8.1	8.3	8.3	8.5	8.5	8.6	7.5	6.6	7.3	7.1	7.5	7.0	8.0	8.3
25 years and over	3.6	3.2	3.1	3.2	3.3	3.2	3.2	3.2	3.1	3.2	3.0	3.2	2.7	2.9	3.1
25 to 54 years	3.7	3.3	3.2	3.3	3.4	3.3	3.2	3.3	3.1	3.2	3.1	3.3	2.8	2.9	3.1
55 years and over	3.1	2.8	2.5	2.5	3.0	2.6	3.0	2.9	3.1	3.1	2.8	3.0	2.6	2.6	2.7
Women, 16 years and over	5.0	4.6	4.5	4.7	4.5	4.7	4.5	4.7	4.6	4.3	4.3	4.5	4.5	4.6	4.1
16 to 24 years	10.7	9.8	9.2	10.1	9.5	10.4	9.8	10.1	9.5	8.7	9.5	10.2	10.0	9.5	8.6
16 to 19 years	15.0	12.9	12.6	13.6	12.2	13.8	12.9	14.8	13.3	11.3	13.9	13.7	13.6	13.4	11.8
16 to 17 years	17.2	15.1	14.2	15.1	13.2	15.5	14.9	15.4	15.9	13.8	16.9	15.7	16.2	14.5	13.8
18 to 19 years	13.6	11.5	11.6	12.3	11.7	12.8	11.9	14.3	11.4	10.2	11.5	12.1	11.9	12.5	10.6
20 to 24 years	8.1	7.8	7.0	7.9	7.7	8.2	7.8	7.1	7.1	7.1	6.7	8.0	7.8	7.1	6.7
25 years and over	3.9	3.6	3.6	3.6	3.5	3.5	3.6	3.6	3.6	3.5	3.4	3.3	3.4	3.6	3.2
25 to 54 years	4.1	3.8	3.7	3.7	3.6	3.7	3.7	3.8	3.8	3.6	3.5	3.5	3.5	3.7	3.4
55 years and over	2.9	2.6	2.5	2.6	2.6	2.7	2.3	2.5	2.9	2.8	3.1	2.7	3.2	3.3	2.6

10. Unemployment rates by State, seasonally adjusted

State	Apr. 1998	Mar. 1999	Apr. 1999[P]	State	Apr. 1998	Mar. 1999	Apr. 1999[P]
Alabama	4.3	4.4	4.6	Missouri	4.5	2.9	3.2
Alaska	5.6	6.3	5.9	Montana	5.7	5.4	5.4
Arizona	4.3	4.2	4.3	Nebraska	2.7	2.3	2.5
Arkansas	5.6	4.4	4.3	Nevada	4.8	3.8	4.1
California	5.9	5.8	5.6	New Hampshire	3.0	3.0	2.4
Colorado	4.0	2.7	3.0	New Jersey	4.7	4.5	4.5
Connecticut	3.4	3.2	3.4	New Mexico	6.0	6.2	6.4
Delaware	4.1	3.2	3.3	New York	5.7	5.0	5.0
District of Columbia	9.2	7.2	6.8	North Carolina	3.6	3.2	2.8
Florida	4.4	4.2	4.2	North Dakota	3.2	2.9	2.6
Georgia	4.3	4.2	3.9	Ohio	4.1	3.9	4.2
Hawaii	6.1	5.9	5.5	Oklahoma	4.5	4.3	4.1
Idaho	5.0	4.7	4.7	Oregon	5.5	5.6	5.3
Illinois	4.3	3.8	3.9	Pennsylvania	4.6	4.4	4.2
Indiana	3.0	2.6	2.5	Rhode Island	5.2	3.0	3.1
Iowa	2.8	2.7	2.7	South Carolina	3.6	3.7	4.2
Kansas	3.9	3.5	3.3	South Dakota	2.9	2.5	2.4
Kentucky	4.8	4.3	4.2	Tennessee	4.3	4.3	4.1
Louisiana	6.0	5.1	5.1	Texas	4.7	4.5	4.6
Maine	4.2	3.4	3.6	Utah	4.0	3.4	3.0
Maryland	4.8	3.7	3.8	Vermont	3.2	3.1	2.6
Massachusetts	3.2	2.8	2.9	Virginia	2.8	2.8	2.7
Michigan	3.7	4.0	3.9	Washington	4.6	4.6	4.5
Minnesota	2.4	2.2	2.1	West Virginia	6.9	6.7	6.7
Mississippi	5.5	5.1	4.6	Wisconsin	2.9	3.2	3.1
				Wyoming	4.8	4.4	4.4

[P] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Apr. 1998	Mar. 1999	Apr. 1999[P]	State	Apr. 1998	Mar. 1999	Apr. 1999[P]
Alabama	1,899.0	1,929.4	1,933.3	Missouri	2,673.8	2,704.0	2,710.1
Alaska	274.6	278.0	277.4	Montana	371.7	379.4	380.2
Arizona	2,055.5	2,125.0	2,133.2	Nebraska	872.2	875.9	877.5
Arkansas	1,118.7	1,133.2	1,133.5	Nevada	914.5	952.4	954.7
California	13,486.6	13,852.4	13,878.6	New Hampshire	585.9	597.5	596.3
Colorado	2,030.4	2,086.3	2,073.0	New Jersey	3,789.8	3,846.7	3,855.8
Connecticut	1,638.5	1,663.9	1,664.8	New Mexico	719.8	729.1	729.0
Delaware	396.2	408.7	409.3	New York	8,198.2	8,336.5	8,345.2
District of Columbia	614.3	614.8	615.3	North Carolina	3,747.2	3,824.8	3,835.1
Florida	6,606.6	6,839.6	6,863.6	North Dakota	319.9	319.7	321.4
Georgia	3,702.8	3,831.6	3,836.8	Ohio	5,469.0	5,498.4	5,510.4
Hawaii	530.0	527.6	528.9	Oklahoma	1,437.6	1,465.0	1,469.1
Idaho	518.9	536.5	536.2	Oregon	1,550.5	1,584.2	1,586.4
Illinois	5,865.3	5,944.1	5,970.7	Pennsylvania	5,483.9	5,528.1	5,532.9
Indiana	2,905.4	2,956.8	2,962.0	Rhode Island	454.8	461.1	464.0
Iowa	1,436.6	1,466.7	1,474.4	South Carolina	1,775.8	1,822.6	1,824.7
Kansas	1,303.9	1,334.5	1,341.8	South Dakota	359.5	366.2	367.8
Kentucky	1,746.7	1,775.7	1,783.4	Tennessee	2,626.5	2,650.7	2,657.1
Louisiana	1,891.8	1,908.1	1,913.2	Texas	8,878.2	9,118.6	9,135.8
Maine	567.3	580.8	581.5	Utah	1,017.2	1,042.4	1,046.2
Maryland	2,305.7	2,359.3	2,362.1	Vermont	285.6	290.1	290.8
Massachusetts	3,166.6	3,209.9	3,218.2	Virginia	3,289.0	3,363.9	3,366.2
Michigan	4,507.8	4,551.7	4,558.4	Washington	2,580.7	2,639.9	2,644.1
Minnesota	2,551.1	2,590.7	2,599.8	West Virginia	713.6	725.8	725.2
Mississippi	1,130.1	1,135.4	1,133.1	Wisconsin	2,709.0	2,734.6	2,738.9
				Wyoming	228.6	229.6	231.8

[P] = preliminary

NOTE

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
TOTAL	122,690	125,826	125,478	125,689	125,808	126,170	126,361	126,567	126,841	127,186	127,378	127,730	127,813	128,156	128,167
PRIVATE SECTOR	103,133	106,007	105,715	105,913	106,009	106,301	106,470	106,654	106,893	107,213	107,386	107,676	107,726	108,057	108,075
GOODS-PRODUCING	24,962	25,347	25,379	25,381	25,240	25,344	25,333	25,306	25,298	25,354	25,315	25,329	25,285	25,289	25,197
Mining	596	590	595	593	588	585	583	578	574	570	560	553	550	538	531
Metal mining	54	50	50	50	50	50	50	50	50	50	50	50	50	49	49
Oil and gas extraction	339	339	343	343	339	336	334	329	325	320	312	306	305	294	289
Nonmetallic minerals, except fuels	108	109	109	109	109	109	109	109	109	110	109	109	108	109	108
Construction	5,691	5,985	5,932	5,962	5,990	6,005	6,009	6,042	6,085	6,173	6,170	6,238	6,232	6,276	6,236
General building contractors	1,310	1,372	1,361	1,369	1,377	1,381	1,382	1,389	1,394	1,404	1,410	1,426	1,429	1,426	1,425
Heavy construction, except building	799	838	833	835	842	842	837	843	850	876	871	869	864	874	857
Special trades contractors	3,582	3,744	3,738	3,758	3,771	3,782	3,790	3,810	3,841	3,893	3,889	3,943	3,939	3,976	3,954
Manufacturing	18,675	18,772	18,852	18,826	18,662	18,754	18,741	18,686	18,639	18,611	18,585	18,538	18,503	18,475	18,430
Production workers	12,907	12,930	12,999	12,970	12,801	12,891	12,893	12,849	12,808	12,795	12,773	12,730	12,714	12,692	12,659
Durable goods	11,010	11,170	11,225	11,210	11,066	11,177	11,159	11,128	11,092	11,074	11,050	11,027	11,014	10,995	10,969
Production workers	7,553	7,643	7,686	7,668	7,521	7,634	7,628	7,605	7,577	7,568	7,548	7,529	7,527	7,516	7,499
Lumber and wood products	796	813	811	811	812	813	815	817	820	823	826	827	827	825	823
Furniture and fixtures	512	530	531	531	532	532	532	532	532	534	534	535	535	536	537
Stone, clay, and glass products	552	563	561	562	563	564	565	566	568	570	569	571	569	570	570
Primary metal industries	711	712	716	716	705	713	712	705	700	699	696	695	693	692	689
Fabricated metal products	1,479	1,501	1,507	1,503	1,491	1,502	1,500	1,498	1,494	1,493	1,495	1,491	1,490	1,489	1,489
Industrial machinery and equipment	2,168	2,203	2,215	2,215	2,208	2,203	2,197	2,188	2,177	2,167	2,148	2,146	2,139	2,132	2,124
Computer and office equipment	376	379	381	380	379	378	377	374	373	370	362	362	360	361	358
Electronic and other electrical equipment	1,689	1,704	1,718	1,715	1,705	1,698	1,692	1,683	1,673	1,669	1,663	1,659	1,659	1,658	1,655
Electronic components and accessories	650	660	668	664	659	655	651	647	643	640	637	636	636	634	634
Transportation equipment	1,845	1,884	1,897	1,891	1,788	1,894	1,891	1,892	1,887	1,882	1,884	1,871	1,873	1,863	1,854
Motor vehicles and equipment	986	990	1,001	994	887	997	996	998	996	994	996	989	992	996	994
Aircraft and parts	501	524	525	526	526	526	525	523	520	518	517	510	511	503	497
Instruments and related products	866	868	874	872	869	866	863	859	855	851	849	847	844	843	842
Miscellaneous manufacturing industries	392	393	395	394	393	392	392	388	386	386	386	385	385	387	386
Nondurable goods	7,665	7,602	7,627	7,616	7,596	7,577	7,582	7,558	7,547	7,537	7,535	7,511	7,489	7,480	7,461
Production workers	5,354	5,287	5,313	5,302	5,280	5,257	5,265	5,244	5,231	5,227	5,225	5,201	5,187	5,176	5,160
Food and kindred products	1,685	1,686	1,687	1,686	1,684	1,675	1,687	1,685	1,690	1,693	1,699	1,695	1,693	1,688	1,688
Tobacco products	41	41	41	40	40	40	40	40	40	40	40	40	39	38	38
Textile mill products	616	598	604	601	597	594	593	590	586	582	579	575	571	567	563
Apparel and other textile products	824	763	773	768	764	755	751	738	729	724	718	707	702	699	691
Paper and allied products	683	675	678	676	674	673	672	669	666	666	664	664	662	662	659
Printing and publishing	1,552	1,565	1,566	1,568	1,567	1,566	1,565	1,565	1,564	1,560	1,561	1,559	1,557	1,555	1,552
Chemicals and allied products	1,036	1,043	1,044	1,044	1,044	1,044	1,043	1,042	1,043	1,042	1,041	1,041	1,037	1,038	1,036
Petroleum and coal products	141	140	141	141	140	140	140	140	140	140	139	139	139	139	139
Rubber and miscellaneous plastics products	996	1,009	1,009	1,009	1,004	1,009	1,010	1,009	1,010	1,012	1,016	1,015	1,014	1,019	1,020
Leather and leather products	91	83	84	83	82	81	81	80	79	78	78	76	75	75	75
SERVICE-PRODUCING	97,727	100,480	100,099	100,308	100,568	100,826	101,028	101,261	101,543	101,832	102,063	102,401	102,528	102,867	102,970
Transportation and public utilities	6,408	6,600	6,577	6,589	6,606	6,625	6,637	6,657	6,671	6,684	6,708	6,723	6,732	6,752	6,765
Transportation	4,123	4,276	4,254	4,265	4,281	4,305	4,313	4,327	4,335	4,340	4,356	4,367	4,378	4,397	4,409
Railroad transportation	227	231	230	231	231	232	233	232	230	231	233	233	235	234	235
Local and interurban passenger transit	452	468	465	466	469	475	471	473	474	474	474	475	476	483	482
Trucking and warehousing	1,677	1,745	1,738	1,744	1,749	1,755	1,759	1,766	1,770	1,769	1,786	1,789	1,796	1,800	1,805
Water transportation	179	180	179	178	181	184	183	183	184	183	182	181	177	180	180
Transportation by air	1,134	1,183	1,175	1,179	1,183	1,190	1,196	1,199	1,201	1,205	1,204	1,213	1,218	1,220	1,225
Pipelines, except natural gas	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Transportation services	441	455	453	453	454	455	457	460	462	464	463	462	462	466	468
Communications and public utilities	2,285	2,324	2,323	2,324	2,325	2,320	2,324	2,330	2,336	2,344	2,352	2,356	2,354	2,355	2,356
Communications	1,419	1,469	1,467	1,470	1,472	1,467	1,472	1,480	1,484	1,492	1,502	1,507	1,506	1,510	1,513
Electric, gas, and sanitary services	866	855	856	854	853	853	852	850	852	852	850	849	848	845	843
Wholesale trade	6,648	6,831	6,814	6,826	6,836	6,846	6,871	6,876	6,891	6,901	6,924	6,937	6,947	6,965	6,962
Retail trade	21,966	22,296	22,237	22,257	22,321	22,353	22,382	22,392	22,443	22,525	22,556	22,648	22,611	22,738	22,755
Building materials and garden supplies	929	948	942	945	947	950	954	957	961	967	972	979	982	982	977
General merchandise stores	2,701	2,730	2,725	2,725	2,728	2,733	2,745	2,744	2,750	2,758	2,773	2,781	2,794	2,815	2,806
Department stores	2,380	2,426	2,422	2,423	2,426	2,429	2,437	2,441	2,447	2,456	2,470	2,475	2,489	2,516	2,507

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
Food stores	3,478	3,482	3,478	3,474	3,484	3,483	3,486	3,485	3,488	3,487	3,481	3,492	3,490	3,493	3,480
Automotive dealers and service stations	2,311	2,341	2,333	2,338	2,343	2,345	2,349	2,356	2,361	2,370	2,377	2,390	2,392	2,398	2,404
New and used car dealers	1,046	1,048	1,044	1,046	1,048	1,048	1,050	1,052	1,055	1,059	1,061	1,065	1,069	1,074	1,078
Apparel and accessory stores	1,109	1,143	1,142	1,145	1,148	1,149	1,150	1,144	1,148	1,147	1,152	1,167	1,167	1,162	1,164
Furniture and home furnishings stores	999	1,026	1,019	1,022	1,026	1,031	1,033	1,038	1,042	1,048	1,055	1,064	1,070	1,081	1,086
Eating and drinking places	7,646	7,760	7,736	7,740	7,767	7,779	7,782	7,787	7,808	7,857	7,843	7,855	7,785	7,863	7,886
Miscellaneous retail establishments	2,794	2,867	2,862	2,868	2,878	2,883	2,883	2,881	2,885	2,891	2,903	2,920	2,931	2,944	2,952
Finance, insurance, and real estate	7,109	7,407	7,374	7,400	7,430	7,445	7,467	7,494	7,520	7,542	7,570	7,581	7,595	7,614	7,626
Finance	3,424	3,593	3,574	3,589	3,606	3,616	3,623	3,642	3,651	3,663	3,675	3,681	3,690	3,700	3,708
Depository institutions	2,027	2,042	2,043	2,043	2,043	2,043	2,040	2,044	2,044	2,047	2,049	2,051	2,051	2,052	2,055
Commercial banks	1,463	1,468	1,470	1,468	1,468	1,467	1,465	1,466	1,466	1,467	1,469	1,470	1,469	1,469	1,472
Savings institutions	260	258	258	258	258	258	258	258	258	257	258	258	258	257	257
Nondepository institutions	577	658	647	655	663	669	673	684	693	698	705	708	712	717	719
Security and commodity brokers	596	645	639	644	650	653	656	660	658	661	663	661	664	668	671
Holding and other investment offices	223	248	245	247	250	251	254	254	256	257	258	261	263	263	263
Insurance	2,264	2,344	2,336	2,343	2,349	2,355	2,362	2,367	2,375	2,379	2,383	2,386	2,393	2,395	2,398
Insurance carriers	1,539	1,598	1,592	1,597	1,602	1,607	1,611	1,614	1,619	1,624	1,627	1,628	1,632	1,631	1,635
Insurance agents, brokers, and service	725	746	744	746	747	748	751	753	756	755	756	758	760	764	763
Real estate	1,421	1,471	1,464	1,468	1,475	1,474	1,482	1,485	1,494	1,500	1,512	1,514	1,513	1,519	1,520
Services[1]	36,040	37,526	37,334	37,460	37,576	37,688	37,780	37,929	38,070	38,207	38,313	38,458	38,556	38,699	38,770
Agricultural services	678	706	694	698	704	709	712	716	726	739	747	751	747	756	748
Hotels and other lodging places	1,746	1,776	1,774	1,777	1,782	1,784	1,785	1,784	1,782	1,783	1,785	1,786	1,789	1,792	1,781
Personal services	1,186	1,195	1,197	1,196	1,197	1,197	1,195	1,194	1,198	1,202	1,205	1,201	1,200	1,203	1,198
Business services	7,988	8,584	8,513	8,573	8,601	8,649	8,654	8,729	8,779	8,829	8,869	8,922	8,963	9,015	9,057
Services to buildings	930	950	948	948	952	952	956	959	962	964	971	971	973	979	982
Personnel supply services	2,985	3,230	3,212	3,248	3,234	3,249	3,230	3,254	3,267	3,292	3,308	3,331	3,343	3,355	3,368
Help supply services	2,656	2,872	2,858	2,886	2,873	2,887	2,874	2,891	2,903	2,922	2,933	2,954	2,967	2,981	2,987
Computer and data processing services	1,409	1,599	1,573	1,593	1,613	1,626	1,639	1,658	1,675	1,691	1,708	1,724	1,734	1,750	1,766
Auto repair services and parking	1,120	1,144	1,137	1,142	1,146	1,150	1,153	1,155	1,160	1,163	1,168	1,175	1,176	1,178	1,182
Miscellaneous repair services	374	382	380	381	381	382	384	386	388	390	392	392	393	396	399
Motion pictures	550	573	573	564	573	575	577	577	575	577	573	582	580	585	588
Amusement and recreation services	1,552	1,601	1,584	1,587	1,599	1,608	1,622	1,626	1,641	1,647	1,653	1,656	1,660	1,671	1,679
Health services	9,703	9,846	9,830	9,842	9,847	9,859	9,873	9,883	9,892	9,899	9,905	9,919	9,932	9,951	9,952
Offices and clinics of medical doctors	1,739	1,803	1,793	1,798	1,803	1,811	1,818	1,825	1,831	1,833	1,840	1,844	1,850	1,856	1,859
Nursing and personal care facilities	1,756	1,762	1,766	1,765	1,762	1,760	1,761	1,759	1,757	1,756	1,756	1,755	1,754	1,753	1,755
Hospitals	3,860	3,926	3,918	3,925	3,931	3,937	3,943	3,948	3,950	3,952	3,954	3,959	3,963	3,966	3,967
Home health care services	710	672	675	674	665	661	658	654	651	651	645	651	653	655	653
Legal services	944	973	968	971	974	977	980	985	986	988	989	992	995	998	998
Educational services	2,104	2,177	2,164	2,171	2,177	2,176	2,189	2,206	2,214	2,223	2,218	2,237	2,243	2,247	2,265
Social services	2,518	2,644	2,624	2,638	2,650	2,660	2,672	2,682	2,695	2,708	2,721	2,734	2,744	2,756	2,762
Child day care services	576	605	600	604	607	610	610	612	615	618	621	625	627	629	633
Residential care	716	747	744	743	746	749	753	757	760	762	765	768	769	773	775
Museums and botanical and zoological gardens	90	93	92	92	92	93	93	93	94	94	94	94	95	94	93
Membership organizations	2,277	2,361	2,357	2,360	2,362	2,365	2,369	2,374	2,375	2,380	2,385	2,389	2,392	2,393	2,391
Engineering and management services	2,988	3,185	3,158	3,178	3,201	3,214	3,231	3,248	3,273	3,292	3,316	3,335	3,354	3,370	3,383
Engineering and architectural services	865	905	901	906	910	912	913	915	919	922	926	930	933	938	936
Management and public relations	939	1,034	1,016	1,025	1,037	1,046	1,058	1,068	1,081	1,090	1,103	1,111	1,123	1,131	1,141
Government	19,557	19,819	19,763	19,776	19,799	19,869	19,891	19,913	19,948	19,973	19,992	20,054	20,087	20,099	20,092
Federal	2,699	2,686	2,675	2,677	2,675	2,688	2,689	2,711	2,723	2,701	2,702	2,713	2,710	2,689	2,673
Federal, except Postal Service	1,842	1,819	1,812	1,813	1,809	1,818	1,815	1,833	1,843	1,819	1,822	1,834	1,831	1,809	1,794
State	4,582	4,612	4,597	4,598	4,612	4,633	4,647	4,633	4,637	4,652	4,644	4,670	4,680	4,690	4,687
Education	1,904	1,916	1,908	1,911	1,915	1,931	1,939	1,923	1,923	1,932	1,920	1,941	1,948	1,958	1,951
Other State government	2,678	2,695	2,689	2,687	2,697	2,702	2,708	2,710	2,714	2,720	2,724	2,729	2,732	2,732	2,736
Local	12,276	12,521	12,491	12,501	12,512	12,548	12,555	12,569	12,588	12,620	12,646	12,671	12,697	12,720	12,732
Education	6,918	7,082	7,052	7,060	7,078	7,109	7,103	7,108	7,132	7,148	7,165	7,181	7,200	7,203	7,222
Other local government	5,357	5,440	5,439	5,441	5,434	5,439	5,452	5,461	5,456	5,472	5,481	5,490	5,497	5,517	5,510

[1] Includes other industries not shown separately.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[P]	May[P]
PRIVATE SECTOR	34.6	34.6	34.7	34.6	34.6	34.6	34.5	34.6	34.6	34.6	34.6	34.6	34.5	34.4	34.5
GOODS-PRODUCING	41.3	41.0	41.1	41.1	41.2	41.1	40.9	41.1	41.0	41.1	41.1	41.0	40.8	40.8	41.0
MINING	45.4	43.9	44.3	43.7	44.3	43.7	43.3	43.7	43.3	43.3	42.9	43.0	42.9	43.7	43.8
MANUFACTURING	42.0	41.7	41.8	41.8	41.7	41.7	41.6	41.7	41.7	41.7	41.6	41.6	41.5	41.6	41.7
Overtime hours	4.8	4.6	4.6	4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.3	4.6
Durable goods	42.8	42.3	42.4	42.3	42.2	42.3	42.2	42.3	42.3	42.2	42.2	42.2	42.0	42.1	42.2
Overtime hours	5.1	4.8	4.8	4.8	4.8	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.6	4.4	4.6
Lumber and wood products	41.0	41.1	41.1	41.1	41.2	41.2	40.7	41.1	41.2	41.5	41.7	41.1	41.2	41.2	41.2
Furniture and fixtures	40.2	40.6	40.8	40.9	40.7	40.6	40.2	40.5	40.3	40.2	40.4	40.3	40.3	40.4	40.3
Stone, clay, and glass products	43.2	43.5	43.6	43.4	43.6	43.6	43.4	43.6	43.6	43.8	43.8	43.4	42.9	43.1	43.4
Primary metal industries	44.9	44.2	44.3	44.4	44.0	44.1	43.9	43.7	43.8	43.7	43.7	43.8	43.9	44.1	44.2
Blast furnaces and basic steel products	44.9	44.6	45.3	45.0	44.4	44.4	44.2	43.7	43.7	43.3	43.8	43.8	43.9	44.7	44.8
Fabricated metal products	42.6	42.3	42.5	42.4	42.4	42.3	42.2	42.3	42.2	42.2	42.1	42.1	42.1	41.8	42.1
Industrial machinery and equipment	43.6	42.8	43.0	43.1	42.9	42.9	42.6	42.6	42.4	42.1	42.1	42.1	41.9	41.9	42.1
Electronic and other electrical equipment	42.0	41.4	41.4	41.4	41.4	41.5	41.4	41.5	41.4	41.1	41.2	41.2	41.0	41.0	41.6
Transportation equipment	44.5	43.4	43.3	42.9	43.0	43.0	43.8	43.9	44.1	44.1	43.5	44.0	43.7	44.0	43.5
Motor vehicles and equipment	45.0	43.5	43.3	42.7	42.5	43.0	44.3	44.1	44.6	44.9	44.3	45.0	44.7	45.1	44.3
Instruments and related products	42.0	41.3	41.4	41.4	41.4	41.3	41.1	41.2	41.1	41.1	41.2	41.3	41.2	41.8	41.7
Miscellaneous manufacturing	40.4	39.9	40.1	40.1	40.0	40.0	39.5	39.7	39.4	39.6	39.6	39.7	39.8	39.7	40.2
Nondurable goods	40.9	40.9	40.9	40.9	41.0	40.9	40.8	40.9	40.8	40.9	40.8	40.8	40.8	40.9	41.0
Overtime hours	4.4	4.3	4.4	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.4	4.2	4.5
Food and kindred products	41.3	41.7	41.7	41.7	41.8	41.7	41.7	41.6	41.7	42.0	41.8	41.7	41.7	41.9	41.9
Textile mill products	41.4	41.0	41.2	41.2	41.0	41.0	40.4	41.1	40.8	40.8	40.8	40.6	40.4	41.0	40.7
Apparel and other textile products	37.3	37.3	37.4	37.3	37.4	37.4	37.2	37.3	37.3	37.3	37.0	37.5	37.4	37.5	37.9
Paper and allied products	43.7	43.4	43.5	43.5	43.6	43.3	43.6	43.5	43.5	43.4	43.5	43.5	43.7	43.6	43.6
Printing and publishing	38.5	38.3	38.4	38.3	38.4	38.5	38.2	38.2	38.1	38.1	38.2	38.1	37.9	38.1	38.2
Chemicals and allied products	43.2	43.2	43.1	43.2	43.1	43.2	43.2	43.2	42.9	42.7	42.9	42.8	42.8	43.0	43.1
Rubber and miscellaneous plastics products	41.8	41.7	41.8	41.9	41.9	41.7	41.7	41.8	41.6	41.7	41.4	41.7	41.8	41.4	41.7
Leather and leather products	38.4	37.6	37.5	37.6	37.3	37.9	37.4	37.4	37.4	37.5	37.3	37.7	37.7	38.0	38.0
SERVICE-PRODUCING	32.9	32.9	33.0	32.9	33.0	32.9	32.8	32.9	32.9	32.9	32.9	33.0	32.8	32.8	32.8
TRANSPORTATION AND PUBLIC UTILITIES	39.7	39.5	39.7	39.5	39.5	39.4	39.3	39.3	39.2	39.1	39.3	39.2	39.1	39.1	38.9
WHOLESALE TRADE	38.4	38.4	38.4	38.3	38.4	38.4	38.3	38.3	38.4	38.4	38.4	38.5	38.4	38.4	38.3
RETAIL TRADE	28.9	29.0	29.1	29.0	29.1	29.0	29.0	29.1	29.0	29.0	29.0	29.2	29.0	29.0	29.1

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[P]	May[P]
PRIVATE SECTOR (in current dollars)	$ 12.28	$ 12.78	$12.73	$12.76	$12.80	$12.85	$12.88	$12.91	$12.94	$12.98	$13.04	$13.06	$13.11	$13.14	$13.19
Goods-producing	13.92	14.34	14.29	14.31	14.33	14.39	14.41	14.44	14.47	14.51	14.53	14.56	14.61	14.67	14.75
Mining	16.15	16.90	16.72	16.71	16.87	17.00	17.06	17.15	17.27	17.18	17.07	16.97	17.00	16.88	16.90
Construction	16.04	16.59	16.50	16.54	16.63	16.67	16.60	16.72	16.76	16.80	16.80	16.83	16.92	16.97	17.10
Manufacturing	13.17	13.49	13.48	13.48	13.46	13.53	13.58	13.57	13.58	13.60	13.64	13.67	13.71	13.79	13.84
Excluding overtime	12.45	12.79	12.77	12.77	12.75	12.82	12.86	12.87	12.88	12.90	12.93	12.97	13.00	13.09	13.13
Service-producing	11.73	12.27	12.22	12.26	12.30	12.35	12.38	12.41	12.45	12.49	12.56	12.58	12.63	12.65	12.70
Transportation and public utilities	14.92	15.31	15.27	15.27	15.31	15.33	15.37	15.38	15.41	15.47	15.49	15.51	15.53	15.60	15.68
Wholesale trade	13.45	14.06	14.02	14.05	14.09	14.17	14.18	14.23	14.27	14.30	14.36	14.36	14.42	14.44	14.48
Retail trade	8.33	8.73	8.70	8.71	8.76	8.80	8.84	8.83	8.85	8.89	8.93	8.95	8.98	9.03	9.05
Finance, insurance, and real estate	13.34	14.06	14.00	14.05	14.08	14.14	14.16	14.23	14.32	14.40	14.46	14.49	14.51	14.58	14.64
Services	12.28	12.85	12.79	12.85	12.89	12.94	12.98	13.02	13.05	13.08	13.17	13.22	13.27	13.28	13.33
PRIVATE SECTOR (in constant (1982) dollars)	7.55	7.75	7.74	7.75	7.76	7.78	7.80	7.80	7.80	7.81	7.83	7.84	7.86	7.83	–

– Data not available.

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1997		1998										
	1996	1997	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.[P]	Nov.[P]
PRIVATE SECTOR	$ 11.82	$ 12.28	$12.53	$12.53	$12.60	$12.65	$12.68	$12.69	$12.70	$12.66	$12.66	$12.74	$12.89	$12.92	$12.99
MINING	15.62	16.17	16.41	16.52	16.65	16.89	16.89	16.84	16.73	16.73	16.81	16.94	17.16	17.14	17.27
CONSTRUCTION	15.47	16.03	16.28	16.37	16.25	16.21	16.29	16.34	16.42	16.44	16.63	16.74	16.76	16.85	16.80
MANUFACTURING	12.77	13.17	13.36	13.47	13.40	13.41	13.47	13.46	13.47	13.43	13.37	13.44	13.60	13.54	13.61
Durable goods	13.33	13.73	13.95	14.07	13.96	13.96	14.02	13.96	13.98	13.94	13.77	13.93	14.08	14.03	14.10
Lumber and wood products	10.44	10.77	10.91	10.93	10.90	10.91	10.95	10.99	11.06	11.10	11.18	11.19	11.19	11.23	11.27
Furniture and fixtures	10.15	10.55	10.69	10.79	10.75	10.77	10.80	10.85	10.79	10.81	10.90	10.95	10.98	10.98	10.96
Stone, clay, and glass products	12.82	13.18	13.36	13.39	13.39	13.45	13.46	13.63	13.58	13.58	13.60	13.63	13.82	13.68	13.68
Primary metal industries	14.97	15.22	15.38	15.42	15.47	15.46	15.52	15.66	15.54	15.53	15.56	15.44	15.61	15.28	15.35
Blast furnaces and basic steel products	17.80	18.03	18.28	18.15	18.33	18.34	18.32	18.66	18.55	18.53	18.49	18.46	18.75	18.09	18.20
Fabricated metal products	12.50	12.79	12.93	13.03	12.99	12.98	13.01	12.89	13.02	13.00	12.89	13.06	13.18	13.19	13.23
Industrial machinery and equipment	13.59	14.07	14.30	14.41	14.34	14.36	14.36	14.32	14.36	14.40	14.42	14.44	14.53	14.54	14.63
Electronic and other electrical equipment	12.18	12.70	13.00	13.13	13.00	12.97	13.06	13.09	13.05	13.08	13.15	13.12	13.26	13.15	13.30
Transportation equipment	17.19	17.56	17.94	18.09	17.75	17.77	17.92	17.71	17.65	17.45	16.88	17.32	17.53	17.49	17.57
Motor vehicles and equipment	17.74	18.06	18.53	18.66	18.24	18.31	18.52	18.35	18.16	17.84	16.87	17.60	17.85	17.70	17.78
Instruments and related products	13.13	13.51	13.66	13.68	13.64	13.67	13.73	13.75	13.75	13.71	13.74	13.76	13.84	13.81	13.87
Miscellaneous manufacturing	10.38	10.59	10.71	10.80	10.79	10.79	10.79	10.76	10.79	10.82	10.84	10.83	10.96	11.01	11.00
Nondurable goods	11.97	12.33	12.48	12.58	12.56	12.57	12.63	12.71	12.71	12.69	12.79	12.73	12.91	12.83	12.89
Food and kindred products	11.20	11.49	11.60	11.71	11.67	11.64	11.70	11.75	11.78	11.76	11.80	11.75	11.95	11.82	11.94
Tobacco products	19.35	19.27	17.88	18.69	18.49	18.24	18.54	18.94	20.35	20.89	20.66	19.06	18.03	17.08	17.49
Textile mill products	9.69	10.03	10.16	10.25	10.26	10.26	10.29	10.39	10.37	10.36	10.36	10.38	10.48	10.44	10.50
Apparel and other textile products	7.96	8.25	8.32	8.42	8.41	8.38	8.43	8.47	8.46	8.50	8.48	8.54	8.62	8.65	8.65
Paper and allied products	14.67	15.04	15.22	15.27	15.18	15.20	15.27	15.44	15.50	15.45	15.63	15.53	15.83	15.58	15.63
Printing and publishing	12.65	13.05	13.24	13.30	13.27	13.32	13.36	13.32	13.32	13.33	13.43	13.46	13.64	13.62	13.56
Chemicals and allied products	16.17	16.58	16.85	16.92	16.89	16.94	16.97	17.15	17.11	17.05	17.19	17.14	17.31	17.23	17.30
Petroleum and coal products	19.32	20.18	20.39	20.55	20.63	20.91	21.16	20.99	20.80	20.71	20.81	20.78	20.80	21.01	20.94
Rubber and miscellaneous plastics products	11.24	11.57	11.64	11.76	11.74	11.77	11.78	11.84	11.85	11.81	11.91	11.84	11.98	11.90	11.98
Leather and leather products	8.57	8.98	9.14	9.21	9.32	9.29	9.32	9.28	9.33	9.35	9.16	9.29	9.37	9.44	9.42
TRANSPORTATION AND PUBLIC UTILITIES	14.45	14.93	15.19	15.17	15.27	15.29	15.24	15.27	15.21	15.22	15.31	15.33	15.46	15.38	15.48
WHOLESALE TRADE	12.87	13.44	13.76	13.72	13.77	13.85	13.86	13.90	13.96	13.89	13.99	14.13	14.10	14.13	14.25
RETAIL TRADE	7.99	8.34	8.51	8.51	8.63	8.62	8.67	8.70	8.71	8.70	8.71	8.74	8.90	8.85	8.87
FINANCE, INSURANCE, AND REAL ESTATE	12.80	13.33	13.72	13.64	13.70	13.95	13.97	13.98	13.99	13.93	13.94	14.11	14.10	14.21	14.44
SERVICES	11.79	12.28	12.57	12.61	12.66	12.75	12.77	12.77	12.75	12.70	12.67	12.75	12.97	13.01	13.15

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
PRIVATE SECTOR															
Current dollars	$424.89	$442.19	$439.77	$440.00	$441.26	$449.15	$442.47	$447.38	$451.10	$451.10	$445.74	$449.33	$448.70	$451.39	$456.72
Seasonally adjusted	–	–	441.73	441.50	442.88	444.61	444.36	446.69	447.72	449.11	451.18	451.88	452.30	452.02	455.06
Constant (1982) dollars	261.31	268.32	267.17	266.99	267.59	272.05	267.68	269.99	272.07	272.07	268.19	270.19	269.33	268.84	–
MINING	733.21	741.91	738.48	733.92	735.76	742.72	734.02	751.08	757.30	755.57	728.83	729.32	717.82	731.81	739.72
CONSTRUCTION	625.56	643.69	646.09	645.62	669.73	674.15	629.63	675.60	649.25	659.62	634.45	633.08	632.98	650.41	669.67
MANUFACTURING															
Current dollars	553.14	562.53	563.46	561.79	549.92	560.87	564.40	567.75	573.92	583.19	564.16	564.16	568.42	574.08	577.13
Constant (1982) dollars	340.18	341.34	342.32	340.89	333.49	339.72	341.44	342.64	346.15	351.74	339.45	339.24	341.19	341.92	–
Durable goods	587.64	591.35	593.73	590.63	571.46	587.42	588.13	595.85	602.20	613.13	591.21	591.63	596.40	602.19	605.74
Lumber and wood products	441.16	456.21	456.37	461.34	460.20	465.09	452.39	465.63	466.46	472.46	459.10	453.78	461.45	468.86	472.79
Furniture and fixtures	424.11	442.54	433.08	441.46	439.67	449.36	437.40	449.49	449.49	460.65	445.11	440.19	444.00	447.83	443.45
Stone, clay, and glass products	569.38	591.60	597.52	596.16	595.24	602.45	606.70	603.29	597.87	600.06	580.55	576.97	578.14	593.57	607.07
Primary metal industries	683.38	684.66	691.98	689.98	670.64	676.71	683.72	667.95	678.47	685.06	674.08	673.42	681.77	691.73	696.84
Blast furnaces and basic steel products	809.55	821.98	842.62	834.30	812.15	815.93	832.94	787.10	800.58	794.47	810.04	808.45	814.78	835.97	845.02
Fabricated metal products	544.43	552.44	553.78	554.23	535.81	550.29	547.46	561.04	565.39	578.96	555.52	555.52	557.19	532.88	565.82
Industrial machinery and equipment	613.45	619.32	619.78	622.94	610.39	616.00	608.19	617.77	625.13	636.34	619.92	619.71	623.50	626.67	630.05
Electronic and other electrical equipment	533.40	541.93	536.42	540.68	533.08	543.65	542.43	544.90	554.46	560.90	543.66	544.58	541.42	546.94	553.42
Transportation equipment	780.98	760.80	769.56	746.89	691.26	740.01	757.32	771.73	781.39	802.49	756.45	768.25	775.27	789.85	784.49
Motor vehicles and equipment	811.80	776.91	796.89	757.93	664.88	744.60	778.33	784.54	799.14	829.76	776.60	796.95	810.90	834.48	821.72
Instruments and related products	567.84	570.35	569.11	569.25	560.85	568.15	563.53	569.65	577.27	588.00	573.09	578.51	578.36	585.31	585.15
Miscellaneous manufacturing	428.24	434.51	430.92	433.20	425.32	434.00	431.51	443.00	441.20	447.02	435.24	442.33	447.60	450.00	451.93
Nondurable goods	504.71	521.88	518.98	519.43	520.09	522.75	530.13	527.72	532.77	540.38	527.39	525.29	529.02	532.36	535.30
Food and kindred products	474.12	492.06	488.87	488.04	490.88	493.92	507.88	496.44	506.68	514.46	495.51	489.50	490.32	497.28	504.57
Tobacco products	748.44	710.47	789.36	829.12	809.19	745.13	670.21	662.75	673.36	639.38	639.32	662.16	736.47	763.24	811.84
Textile mill products	415.24	425.99	426.21	429.94	418.54	427.24	424.44	429.50	431.96	437.18	432.64	426.12	427.99	436.40	435.23
Apparel and other textile products	307.73	317.80	316.78	321.30	312.91	321.10	316.72	325.24	325.73	330.11	318.56	322.65	328.37	332.38	334.66
Paper and allied products	657.69	673.13	671.58	672.51	674.08	669.77	698.54	680.16	686.60	699.05	684.26	675.10	684.85	690.19	692.23
Printing and publishing	502.81	515.14	507.87	506.92	512.06	519.94	526.89	522.62	525.16	530.78	514.98	515.36	520.37	523.11	520.75
Chemicals and allied products	715.58	739.58	734.02	734.42	734.01	737.02	750.82	743.47	746.06	752.99	737.87	734.44	735.30	737.43	744.32
Petroleum and coal products	870.62	912.11	892.75	895.97	933.18	915.20	899.86	926.64	920.14	948.53	931.56	927.92	943.48	925.35	901.41
Rubber and miscellaneous plastics products	483.63	494.98	496.52	496.02	489.50	491.36	495.97	496.58	503.94	515.82	503.45	503.42	509.96	508.74	510.41
Leather and leather products	344.45	350.43	348.19	355.47	337.27	356.35	348.76	355.32	358.72	359.28	353.79	355.63	359.08	362.50	362.70
TRANSPORTATION AND PUBLIC UTILITIES	592.32	604.75	599.61	601.52	606.22	610.47	605.61	604.83	614.56	606.05	602.56	606.84	601.79	602.56	606.06
WHOLESALE TRADE	516.48	539.90	537.60	535.30	537.73	548.77	539.50	543.48	554.96	549.89	547.96	550.75	547.79	554.58	560.86
RETAIL TRADE	240.74	253.17	252.10	254.32	258.96	260.73	258.41	255.48	256.05	259.30	252.90	256.83	257.40	259.16	263.06
FINANCE, INSURANCE, AND REAL ESTATE	481.57	511.78	505.04	501.84	503.23	521.03	506.19	512.62	532.47	521.28	521.28	528.17	523.08	524.50	537.26
SERVICES	400.33	418.91	414.70	415.62	417.17	423.30	418.93	424.13	431.32	429.67	429.59	432.90	431.89	431.57	437.55

[p] = preliminary.
NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1996	49.6	64.9	59.4	55.1	61.9	60.8	57.0	62.5	57.3	63.5	59.7	61.2
1997	56.2	61.0	61.9	62.8	58.8	56.3	60.7	61.0	59.4	65.4	63.6	62.1
1998	63.8	57.9	58.8	60.5	55.9	57.9	58.0	55.8	54.6	52.9	59.1	58.6
1999	54.4	58.3	52.1	59.0	49.4	–	–	–	–	–	–	–
Over 3-month span:												
1996	62.6	62.5	63.3	63.1	63.1	64.3	64.3	62.2	64.6	64.2	66.2	63.2
1997	63.8	63.6	67.7	67.3	62.6	61.7	61.4	66.2	67.3	69.9	70.8	71.2
1998	66.7	66.2	64.5	63.9	61.4	58.7	60.0	58.4	57.6	57.6	59.0	60.4
1999	60.7	55.9	59.7	52.7	–	–	–	–	–	–	–	–
Over 6-month span:												
1996	62.6	65.2	64.5	65.2	64.7	64.6	67.0	65.4	65.9	66.7	66.9	66.7
1997	67.4	68.3	65.6	67.0	65.6	64.9	66.3	68.4	69.7	71.3	71.3	71.9
1998	70.6	66.9	65.9	62.4	62.6	61.1	58.0	59.8	60.0	60.8	60.8	58.0
1999	61.1	58.3	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1996	64.5	66.7	64.5	65.6	68.5	67.3	67.7	66.4	68.0	69.9	68.7	66.9
1997	69.0	67.3	68.3	69.7	69.5	70.1	70.1	70.4	70.5	69.7	69.8	71.3
1998	70.4	68.3	67.1	64.0	62.1	61.7	61.8	63.8	59.8	59.6	58.7	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1996	42.4	55.4	46.8	41.0	55.8	51.4	47.1	56.5	48.9	55.0	50.7	54.0
1997	50.0	52.9	53.6	56.1	52.2	53.2	51.1	55.4	53.6	62.2	61.2	55.4
1998	58.6	51.8	50.4	50.4	40.6	46.8	40.3	45.3	42.1	36.3	39.9	45.0
1999	40.3	42.4	39.6	46.0	37.4	–	–	–	–	–	–	–
Over 3-month span:												
1996	46.8	46.0	43.5	46.0	48.2	51.1	51.8	49.6	53.2	52.5	55.0	50.7
1997	51.8	51.4	57.6	56.8	54.3	51.8	53.6	55.4	59.7	68.3	65.8	64.4
1998	59.4	57.9	51.8	44.2	41.7	34.9	37.4	37.1	38.1	34.2	35.6	35.3
1999	37.4	31.7	37.8	30.2	–	–	–	–	–	–	–	–
Over 6-month span:												
1996	41.4	46.0	45.7	47.1	46.0	48.6	52.9	50.4	51.8	51.4	52.5	51.8
1997	54.7	54.0	51.4	54.3	52.5	52.2	55.4	61.2	61.5	64.7	66.2	65.1
1998	59.7	49.3	48.2	36.7	36.7	36.7	28.4	31.3	33.5	35.3	32.7	28.1
1999	32.0	29.5	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1996	43.5	47.5	45.3	45.3	50.4	49.6	50.4	48.6	51.1	55.0	54.3	50.7
1997	54.7	52.5	54.0	54.0	55.4	56.8	57.2	57.9	58.3	56.5	55.4	57.2
1998	54.0	49.3	46.0	40.6	35.6	33.8	30.9	32.0	26.6	27.0	25.5	–

– Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1990	1991	1992	1993	1994	1995	1996	1997	1998
Civilian noninstitutional population	189,164	190,925	192,805	194,838	196,814	198,584	200,591	203,133	205,220
Civilian labor force	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673
Labor force participation rate	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1
Employed	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463
Employment-population ratio	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1
Agriculture	3,223	3,269	3,247	3,115	3,409	3,440	3,443	3,399	3,378
Nonagricultural industries	115,570	114,499	115,245	117,144	119,651	121,460	123,264	126,159	128,085
Unemployed	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210
Unemployment rate	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5
Not in the labor force	63,324	64,578	64,700	65,638	65,758	66,280	66,647	66,837	67,547

19. Annual data: Employment levels by industry

[In thousands]

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total employment	109,403	108,249	108,601	110,713	114,163	117,191	119,608	122,690	125,826
Private sector	91,098	89,847	89,956	91,872	95,036	97,885	100,189	103,133	106,007
Goods-producing	24,905	23,745	23,231	23,352	23,908	24,265	24,493	24,962	25,347
Mining	709	689	635	610	601	581	580	596	590
Construction	5,120	4,650	4,492	4,668	4,986	5,160	5,418	5,691	5,985
Manufacturing	19,076	18,406	18,104	18,075	18,321	18,524	18,495	18,675	18,772
Service-producing	84,497	84,504	85,370	87,361	90,256	92,925	95,115	97,727	100,480
Transportation and public utilities	5,777	5,755	5,718	5,811	5,984	6,132	6,253	6,408	6,600
Wholesale trade	6,173	6,081	5,997	5,981	6,162	6,378	6,482	6,648	6,831
Retail trade	19,601	19,284	19,356	19,773	20,507	21,187	21,597	21,966	22,296
Finance, insurance, and real estate	6,709	6,646	6,602	6,757	6,896	6,806	6,911	7,109	7,407
Services	27,934	28,336	29,052	30,197	31,579	33,117	34,454	36,040	37,526
Government	18,304	18,402	18,645	18,841	19,128	19,305	19,419	19,557	19,819
Federal	3,085	2,966	2,969	2,915	2,870	2,822	2,757	2,699	2,686
State	4,305	4,355	4,408	4,488	4,576	4,635	4,606	4,582	4,612
Local	10,914	11,081	11,267	11,438	11,682	11,849	12,056	12,276	12,521

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997
Private sector:									
Average weekly hours	34.6	34.5	34.3	34.4	34.5	34.7	34.5	34.4	34.6
Average hourly earnings (in dollars)	9.66	10.01	10.32	10.57	10.83	11.12	11.43	11.82	12.28
Average weekly earnings (in dollars)	334.24	345.35	353.98	363.61	373.64	385.86	394.34	406.61	424.89
Mining:									
Average weekly hours	43.0	44.1	44.4	43.9	44.3	44.8	44.7	45.3	45.4
Average hourly earnings (in dollars)	13.26	13.68	14.19	14.54	14.60	14.88	15.30	15.62	16.17
Average weekly earnings (in dollars)	570.18	603.29	630.04	638.31	646.78	666.62	683.91	707.59	734.12
Construction:									
Average weekly hours	37.9	38.2	38.1	38.0	38.5	38.9	38.9	39.0	38.9
Average hourly earnings (in dollars)	13.54	13.77	14.00	14.15	14.38	14.73	15.09	15.47	16.03
Average weekly earnings (in dollars)	513.17	526.01	533.40	537.70	553.63	573.00	587.00	603.33	623.57
Manufacturing:									
Average weekly hours	41.0	40.8	40.7	41.0	41.4	42.0	41.6	41.6	42.0
Average hourly earnings (in dollars)	10.48	10.83	11.18	11.46	11.74	12.07	12.37	12.77	13.17
Average weekly earnings (in dollars)	429.68	441.86	455.03	469.86	486.04	506.94	514.59	531.23	553.14
Transportation and public utilities:									
Average weekly hours	38.3	38.4	38.1	38.3	39.3	39.7	39.4	39.6	39.7
Average hourly earnings (in dollars)	12.57	12.92	13.20	13.43	13.55	13.78	14.13	14.45	14.93
Average weekly earnings (in dollars)	481.43	496.13	502.92	514.37	532.52	547.07	556.72	572.22	592.72
Wholesale trade:									
Average weekly hours	38.0	38.1	38.1	38.2	38.2	38.4	38.3	38.3	38.4
Average hourly earnings (in dollars)	10.39	10.79	11.15	11.39	11.74	12.06	12.43	12.87	13.44
Average weekly earnings (in dollars)	394.82	411.10	424.82	435.10	448.47	463.10	476.07	492.92	516.10
Retail trade:									
Average weekly hours	28.9	28.8	28.6	28.8	28.8	28.9	28.8	28.8	28.9
Average hourly earnings (in dollars)	6.53	6.75	6.94	7.12	7.29	7.49	7.69	7.99	8.34
Average weekly earnings (in dollars)	188.72	194.40	198.48	205.06	209.95	216.46	221.47	230.11	241.03
Finance, insurance, and real estate:									
Average weekly hours	35.8	35.8	35.7	35.8	35.8	35.8	35.9	35.9	36.1
Average hourly earnings (in dollars)	9.53	9.97	10.39	10.82	11.35	11.83	12.32	12.80	13.33
Average weekly earnings (in dollars)	341.17	356.93	370.92	387.36	406.33	423.51	442.29	459.52	481.21
Services:									
Average weekly hours	32.6	32.5	32.4	32.5	32.5	32.5	32.4	32.4	32.6
Average hourly earnings (in dollars)	9.38	9.83	10.23	10.54	10.78	11.04	11.39	11.79	12.28
Average weekly earnings (in dollars)	305.79	319.48	331.45	342.55	350.35	358.80	369.04	382.00	400.33

21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended Mar. 1999	12 months ended Mar. 1999
Civilian workers[2]	132.0	132.8	134.1	135.2	136.3	137.4	139.0	139.8	140.4	0.4	3.0
Workers, by occupational group:											
White-collar workers	133.1	133.9	135.2	136.5	137.7	138.7	140.6	141.4	141.9	.4	3.1
Professional specialty and technical	133.7	134.6	135.8	136.7	137.5	138.3	140.0	141.0	141.3	.2	2.8
Executive, administrative, and managerial	133.2	134.0	135.3	137.3	139.1	139.7	141.7	141.8	143.5	1.2	3.2
Administrative support, including clerical	133.6	134.6	135.8	136.9	138.0	139.3	140.4	141.3	142.5	.8	3.3
Blue-collar workers	129.8	130.9	131.8	132.4	133.2	134.3	135.3	136.1	137.1	.7	2.9
Service occupations	132.0	132.7	134.6	135.6	136.9	137.9	139.4	140.0	141.3	.9	3.2
Workers, by industry division:											
Goods-producing	131.5	132.7	133.6	134.1	135.1	136.3	137.2	137.9	139.0	.8	2.9
Manufacturing	132.6	133.8	134.6	135.3	136.4	137.2	138.2	138.9	139.9	.7	2.6
Service-producing	132.1	132.9	134.2	135.5	136.8	137.7	139.6	140.4	140.9	.4	3.0
Services	134.1	134.9	136.5	137.6	138.3	139.0	140.8	141.7	142.3	.4	2.9
Health services	135.2	135.7	136.7	137.9	138.0	138.5	139.1	139.1	140.5	1.0	1.8
Hospitals	134.2	134.6	135.6	136.7	137.1	138.2	139.4	140.2	141.3	.8	3.1
Educational services	134.0	134.2	136.5	137.0	137.5	137.7	140.2	141.0	141.3	.2	2.8
Public administration[3]	133.0	133.0	134.1	135.1	136.4	137.4	138.9	139.9	140.8	.6	3.2
Nonmanufacturing	131.7	132.5	133.8	135.1	136.2	137.3	139.0	139.9	140.5	.4	3.2
Private industry workers	131.7	132.8	133.9	135.1	136.3	137.5	139.0	139.8	140.4	.4	3.0
Excluding sales occupations	131.9	133.0	134.1	135.2	136.4	137.5	138.8	139.4	140.5	.8	3.0
Workers, by occupational group:											
White-collar workers	133.1	134.1	135.2	136.7	138.1	139.4	141.1	142.0	142.4	.3	3.1
Excluding sales occupations	133.7	134.8	135.9	137.4	138.8	139.9	141.3	141.9	143.0	.8	3.0
Professional specialty and technical occupations	134.6	135.9	136.7	137.8	138.8	140.1	141.6	142.6	142.9	.2	3.0
Executive, administrative, and managerial occupations	133.0	133.9	135.2	137.4	139.4	140.0	141.9	141.8	143.7	1.3	3.1
Sales occupations	130.1	130.7	132.2	133.5	135.3	137.3	140.4	142.6	139.6	−2.1	3.2
Administrative support occupations, including clerical	133.7	134.7	135.9	137.0	138.2	139.6	140.6	141.4	142.6	.8	3.2
Blue-collar workers	129.6	130.8	131.7	132.3	133.1	134.3	135.2	135.9	136.9	.7	2.9
Precision production, craft, and repair occupations	129.6	130.9	131.7	131.9	132.9	134.4	135.4	136.1	137.2	.8	3.2
Machine operators, assemblers, and inspectors	130.0	131.2	132.2	133.0	133.6	134.7	135.7	136.8	137.3	.4	2.8
Transportation and material moving occupations	126.1	126.8	128.0	128.9	129.3	129.9	130.7	130.7	131.6	.7	1.8
Handlers, equipment cleaners, helpers, and laborers	132.8	133.4	134.2	135.8	137.0	137.6	138.5	139.2	141.0	1.3	2.9
Service occupations	129.8	130.9	133.1	134.1	135.3	136.0	137.3	138.0	139.5	1.1	3.1
Production and nonsupervisory occupations[4]	131.1	132.1	133.2	134.2	135.3	136.6	138.0	139.0	139.3	.2	3.0
Workers, by industry division:											
Goods-producing	131.4	132.7	133.6	134.1	135.1	136.2	137.1	137.8	138.9	.8	2.8
Excluding sales occupations	131.1	132.3	133.1	133.6	134.5	135.6	136.5	137.2	138.3	.8	2.8
White-collar occupations	133.5	134.8	135.6	136.2	137.7	138.8	139.7	140.2	141.7	1.1	2.9
Excluding sales occupations	132.6	133.8	134.5	135.0	136.3	137.4	138.3	138.8	140.4	1.2	3.0
Blue-collar occupations	130.2	131.4	132.4	132.8	133.5	134.6	135.5	136.3	137.1	.6	2.7
Construction	127.2	128.7	129.7	129.7	130.6	132.7	133.4	134.3	135.6	1.0	3.8
Manufacturing	132.6	133.8	134.6	135.3	136.4	137.2	138.2	138.9	139.9	.7	2.6
White-collar occupations	133.9	135.2	135.8	136.7	138.2	139.1	140.1	140.5	141.8	.9	2.6
Excluding sales occupations	132.8	133.8	134.5	135.3	136.5	137.3	138.3	138.7	140.1	1.0	2.6
Blue-collar occupations	131.7	132.8	133.7	134.3	135.0	135.9	136.8	137.7	138.5	.6	2.6
Durables	133.0	134.1	135.0	135.7	136.5	137.4	138.5	139.2	139.9	.5	2.5
Nondurables	131.7	133.0	133.7	134.5	135.9	136.7	137.6	138.2	139.6	1.0	2.7
Service-producing	131.6	132.5	133.8	135.3	136.7	137.8	139.6	140.5	140.9	.3	3.1
Excluding sales occupations	132.2	133.3	134.5	136.1	137.4	138.5	140.0	140.6	141.7	.8	3.1
White-collar occupations	132.7	133.7	134.9	136.6	138.0	139.3	141.2	142.2	142.3	.1	3.1
Excluding sales occupations	134.0	135.1	136.3	138.1	139.5	140.6	142.2	142.8	143.8	.7	3.1
Blue-collar occupations	128.2	129.2	130.0	130.9	132.1	133.2	134.3	134.8	136.2	1.0	3.1
Service occupations	129.5	130.6	132.7	133.9	135.0	135.8	137.0	137.8	139.3	1.1	3.2
Transportation and public utilities	131.3	131.7	132.9	134.2	135.8	137.1	138.5	139.3	139.7	.3	2.9
Transportation	130.6	130.9	132.1	133.4	134.0	134.9	136.7	137.3	136.8	−.4	2.1
Public utilities	132.0	132.5	133.7	135.1	137.9	139.7	140.7	141.9	143.4	1.1	4.0
Communications	130.2	130.5	131.8	134.0	136.6	139.2	140.5	141.7	143.3	1.1	4.9
Electric, gas, and sanitary services	134.2	134.9	136.0	136.4	139.6	140.3	141.0	142.1	143.4	.9	2.7
Wholesale and retail trade	130.1	131.2	132.4	132.9	134.7	135.8	137.6	138.2	138.9	.5	3.1
Excluding sales occupations	130.4	131.9	133.0	134.0	135.5	136.3	138.1	138.8	139.9	.8	3.2
Wholesale trade	132.9	133.8	134.6	135.1	137.7	138.6	140.8	142.8	142.7	−.1	3.6
Excluding sales occupations	132.6	133.7	134.5	135.4	137.0	138.2	140.0	141.2	142.4	.8	3.9
Retail trade	128.5	129.7	131.1	131.7	133.1	134.4	135.9	135.6	136.8	.9	2.8
General merchandise stores	126.4	127.7	128.6	130.0	131.2	133.0	133.2	134.0	135.0	.7	2.9
Food stores	128.2	128.2	129.8	129.4	131.3	132.9	133.7	132.7	134.3	1.2	2.3

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended Mar. 1999	12 months ended Mar. 1999
Finance, insurance, and real estate	128.6	129.4	130.5	134.5	136.7	138.4	141.0	142.5	141.5	–.7	3.5
Excluding sales occupations	131.5	132.4	133.5	137.6	140.2	141.3	143.2	143.3	145.6	1.6	3.9
Banking, savings and loan, and other credit agencies	130.6	131.6	133.1	140.6	143.3	145.3	148.4	146.7	148.8	1.4	3.8
Insurance	131.9	132.1	133.1	134.8	137.4	138.9	141.9	141.7	141.7	.0	3.1
Services	134.6	135.7	137.0	138.5	139.3	140.3	141.8	142.7	143.5	.6	3.0
Business services	133.3	134.2	136.3	138.6	139.5	140.7	143.5	145.9	147.5	1.1	5.7
Health services	135.5	135.9	137.0	138.1	138.2	138.7	139.0	139.0	140.5	1.1	1.7
Hospitals	134.0	134.4	135.4	136.5	136.7	138.2	139.1	139.9	141.2	.9	3.3
Educational services	138.5	138.8	141.6	142.6	143.4	143.9	147.0	147.7	148.3	.4	3.4
Colleges and universities	139.5	139.9	142.5	143.7	144.3	144.8	147.8	148.5	149.2	.5	3.4
Nonmanufacturing	131.1	132.1	133.3	134.7	136.0	137.2	138.9	139.7	140.3	.4	3.2
White-collar workers	132.7	133.6	134.9	136.5	137.9	139.2	141.1	142.0	142.3	.2	3.2
Excluding sales occupations	134.0	135.1	136.2	137.9	139.3	140.5	142.0	142.7	143.7	.7	3.2
Blue-collar occupations	127.5	128.6	129.4	130.1	131.0	132.4	133.4	134.0	135.2	.9	3.2
Service occupations	129.4	130.5	132.7	133.8	134.9	135.7	136.9	137.7	139.2	1.1	3.2
State and local government workers	133.2	133.3	135.0	135.7	136.5	136.9	139.0	139.8	140.5	.5	2.9
Workers, by occupational group:											
White-collar workers	132.9	133.0	134.8	135.5	136.1	136.2	138.4	139.3	139.8	.4	2.7
Professional specialty and technical	132.5	132.5	134.6	135.1	135.6	135.6	137.7	138.5	138.8	.2	2.4
Executive, administrative, and managerial	134.1	134.4	135.6	136.4	137.5	137.9	140.4	141.6	142.6	.7	3.7
Administrative support, including clerical	133.3	133.5	135.3	136.1	136.9	137.2	139.5	140.3	141.4	.8	3.3
Blue-collar workers	132.1	132.3	133.3	134.2	135.0	135.2	136.8	137.8	138.8	.7	2.8
Workers, by industry division:											
Services	133.2	133.3	135.4	136.0	136.5	136.6	139.0	139.7	140.0	.2	2.6
Services excluding schools[5]	132.5	132.9	134.4	135.3	136.1	136.2	138.7	138.8	139.6	.6	2.6
Health services	134.5	134.9	136.0	137.2	137.9	138.0	140.3	140.7	141.2	.4	2.4
Hospitals	134.8	135.2	136.3	137.6	138.4	138.4	140.7	141.2	141.7	.4	2.4
Educational services	133.1	133.2	135.4	135.9	136.3	136.5	138.8	139.6	139.9	.2	2.6
Schools	133.4	133.5	135.7	136.2	136.6	136.7	139.1	139.9	140.2	.2	2.6
Elementary and secondary	133.1	133.3	135.5	135.8	136.1	136.2	138.8	139.3	139.6	.2	2.6
Colleges and universities	134.3	134.1	136.3	137.2	137.9	138.1	140.4	141.5	141.7	.1	2.8
Public administration[3]	133.0	133.0	134.1	135.1	136.4	137.4	138.9	139.9	140.8	.6	3.2

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

22. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended Mar. 1999	12 months ended Mar. 1999
Civilian workers[1]	129.2	130.1	131.6	132.8	134.0	135.0	136.8	137.7	138.4	0.5	3.3
Workers, by occupational group:											
White-collar workers	130.6	131.5	133.0	134.3	135.6	136.7	138.8	139.7	140.1	.3	3.3
Professional specialty and technical	131.4	132.3	134.0	135.0	135.8	136.6	138.5	139.4	140.1	.5	3.2
Executive, administrative, and managerial	131.0	132.0	133.5	135.6	137.4	138.3	140.5	140.3	141.6	.9	3.1
Administrative support, including clerical	130.4	131.4	132.7	133.7	135.0	136.2	137.5	138.6	140.0	1.0	3.7
Blue-collar workers	126.2	127.5	128.4	129.3	130.4	131.4	132.6	133.3	134.5	.9	3.1
Service occupations	128.6	129.3	131.5	132.6	133.7	134.5	136.1	137.0	138.3	.9	3.4
Workers, by industry division:											
Goods-producing	127.6	128.9	129.9	130.6	132.0	133.3	134.4	135.2	136.3	.8	3.3
Manufacturing	129.1	130.3	131.3	132.2	133.7	134.6	136.0	136.8	137.9	.8	3.1
Service-producing	129.8	130.6	132.2	133.6	134.8	135.7	137.8	138.7	139.2	.4	3.3
Services	132.0	132.9	134.8	136.0	136.9	137.6	139.6	140.5	141.5	.7	3.4
Health services	132.4	133.1	134.3	135.4	136.2	136.5	137.6	137.6	138.8	.9	1.9
Hospitals	131.0	131.5	132.5	133.6	134.2	135.1	136.4	137.1	138.1	.7	2.9
Educational services	132.5	132.6	135.3	135.9	136.3	136.5	139.1	140.0	140.2	.1	2.9
Public administration[2]	128.9	129.0	130.3	131.4	132.7	133.2	134.8	135.9	136.9	.7	3.2
Nonmanufacturing	129.1	130.0	131.5	132.8	134.0	135.1	137.0	137.8	138.4	.4	3.3
Private industry workers	128.6	129.7	131.0	132.3	133.7	134.9	136.6	137.4	138.1	.5	3.3
Excluding sales occupations	128.6	129.9	131.2	132.4	133.7	134.8	136.3	136.9	138.2	.9	3.4
Workers, by occupational group:											
White-collar workers	130.2	131.3	132.7	134.2	135.7	137.0	139.0	139.9	140.3	.3	3.4
Excluding sales occupations	130.8	132.0	133.4	134.8	136.3	137.5	139.1	139.7	141.0	.9	3.4
Professional specialty and technical occupations	131.0	132.4	133.7	134.8	135.9	137.1	138.7	139.7	140.7	.7	3.5
Executive, administrative, and managerial occupations	131.0	132.1	133.6	135.8	137.8	138.7	140.9	140.5	141.9	1.0	3.0
Sales occupations	127.8	128.3	129.8	131.4	133.1	135.2	138.8	141.3	137.3	−2.8	3.2
Administrative support occupations, including clerical	130.6	131.7	132.9	133.9	135.3	136.7	137.9	138.9	140.4	1.1	3.8
Blue-collar workers	126.0	127.3	128.3	129.1	130.2	131.3	132.4	133.2	134.3	.8	3.1
Precision production, craft, and repair occupations	125.8	127.4	128.2	128.7	129.8	131.2	132.3	133.0	134.3	1.0	3.5
Machine operators, assemblers, and inspectors	127.2	128.5	129.5	130.6	131.6	132.7	133.8	134.9	135.7	.6	3.1
Transportation and material moving occupations	122.3	123.0	124.1	125.1	125.9	126.4	127.6	127.8	129.1	1.0	2.5
Handlers, equipment cleaners, helpers, and laborers	128.4	129.3	130.2	131.8	133.2	133.7	135.1	135.8	137.3	1.1	3.1
Service occupations	126.6	127.6	129.9	131.1	132.1	133.0	134.4	135.3	136.7	1.0	3.5
Production and nonsupervisory occupations[3]	127.7	128.8	130.1	131.2	132.3	133.6	135.2	136.4	136.8	.3	3.4
Workers, by industry division:											
Goods-producing	127.5	128.9	129.9	130.6	132.0	133.2	134.3	135.2	136.3	.8	3.3
Excluding sales occupations	127.0	128.3	129.3	130.0	131.3	132.5	133.6	134.4	135.5	.8	3.2
White-collar occupations	130.0	131.4	132.3	132.9	135.0	136.3	137.4	138.2	139.4	.9	3.3
Excluding sales occupations	128.9	130.0	130.9	131.6	133.3	134.6	135.7	136.4	137.8	1.0	3.4
Blue-collar occupations	126.0	127.3	128.4	129.2	130.1	131.3	132.3	133.3	134.3	.8	3.2
Construction	122.0	123.6	124.7	124.9	126.0	128.1	128.5	129.3	130.7	1.1	3.7
Manufacturing	129.1	130.3	131.3	132.2	133.7	134.6	136.0	136.8	137.9	.8	3.1
White-collar occupations	130.6	131.9	132.8	133.6	135.6	136.8	138.3	139.0	140.1	.8	3.3
Excluding sales occupations	129.3	130.5	131.3	132.2	133.8	135.0	136.3	137.1	138.3	.9	3.4
Blue-collar occupations	128.0	129.2	130.2	131.2	132.3	133.1	134.3	135.3	136.3	.7	3.0
Durables	129.0	130.1	131.2	131.9	133.4	134.5	135.9	136.9	137.9	.7	3.4
Nondurables	129.3	130.6	131.4	132.6	134.2	134.9	136.0	136.8	138.0	.9	2.8
Service-producing	129.0	130.1	131.5	133.1	134.4	135.6	137.6	138.4	138.9	.4	3.3
Excluding sales occupations	129.7	130.9	132.3	133.9	135.2	136.2	137.9	138.5	139.8	.9	3.4
White-collar occupations	130.1	131.2	132.6	134.3	135.7	137.0	139.2	140.1	140.3	.1	3.4
Excluding sales occupations	131.5	132.7	134.2	135.9	137.3	138.4	140.2	140.7	142.0	.9	3.4
Blue-collar occupations	126.0	127.2	127.9	128.9	130.2	131.1	132.4	132.9	134.4	1.1	3.2
Service occupations	126.5	127.5	129.8	131.0	132.1	133.0	134.2	135.2	136.7	1.1	3.5
Transportation and public utilities	128.2	128.8	130.1	131.3	132.1	132.8	134.3	135.1	135.4	.2	2.5
Transportation	126.5	126.9	128.5	129.5	130.1	130.4	132.4	132.9	132.3	−.5	1.7
Public utilities	130.1	130.9	132.0	133.5	134.5	135.7	136.5	137.8	139.2	1.0	3.5
Communications	129.8	130.6	131.8	134.0	134.4	135.8	136.7	138.0	139.4	1.0	3.7
Electric, gas, and sanitary services	130.4	131.2	132.2	132.9	134.7	135.6	136.3	137.4	138.9	1.1	3.1
Wholesale and retail trade	128.5	129.7	130.9	131.6	133.3	134.6	136.6	137.0	137.7	.5	3.3
Excluding sales occupations	129.3	131.1	132.2	133.2	134.7	135.6	137.6	138.2	139.5	.9	3.6
Wholesale trade	131.4	132.2	133.0	133.6	136.2	137.1	139.3	141.3	140.7	−.4	3.3
Excluding sales occupations	131.8	132.8	133.9	135.0	136.5	137.8	139.6	140.8	141.9	.8	4.0
Retail trade	127.1	128.5	129.9	130.6	131.9	133.3	135.2	134.8	136.2	1.0	3.3
Food stores	124.8	124.7	126.7	127.0	129.0	130.5	131.7	130.5	131.8	1.0	2.2
General merchandise stores	125.0	126.2	126.7	128.4	129.4	131.5	132.2	133.0	133.7	.5	3.3

See footnotes at end of table.

22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1999	
Finance, insurance, and real estate	124.5	125.3	126.4	130.6	132.6	134.8	138.1	139.8	137.2	−1.9	3.5
Excluding sales occupations	127.2	128.1	129.3	133.6	135.9	137.5	139.7	139.6	141.0	1.0	3.8
Banking, savings and loan, and other credit agencies	125.9	126.8	128.9	138.3	140.9	143.2	147.0	144.4	146.1	1.2	3.7
Insurance	127.9	128.0	128.7	130.2	133.1	134.8	138.7	138.5	137.4	−.8	3.2
Services	131.8	133.0	134.7	136.2	137.2	138.3	140.0	140.8	142.2	1.0	3.6
Business services	131.4	132.4	134.9	137.3	137.6	139.2	141.8	144.1	145.4	.9	5.7
Health services	132.5	133.2	134.3	135.4	136.2	136.5	137.5	137.4	138.7	.9	1.8
Hospitals	130.7	131.2	132.2	133.2	133.6	134.7	135.8	136.5	137.6	.8	3.0
Educational services	134.5	134.8	137.8	138.4	139.1	139.6	142.8	143.5	143.9	.3	3.5
Colleges and universities	134.6	135.0	137.8	138.7	139.1	139.7	142.8	143.6	144.1	.3	3.6
Nonmanufacturing	128.2	129.3	130.7	132.1	133.4	134.7	136.5	137.4	137.9	.4	3.4
White-collar workers	129.9	131.0	132.4	134.1	135.5	136.8	138.9	139.8	140.1	.2	3.4
Excluding sales occupations	131.2	132.4	133.8	135.5	136.9	138.1	139.8	140.3	141.6	.9	3.4
Blue-collar occupations	124.1	125.5	126.4	127.1	128.2	129.5	130.5	131.1	132.4	1.0	3.3
Service occupations	126.4	127.4	129.7	130.9	132.0	132.9	134.1	135.1	136.5	1.0	3.4
State and local government workers	131.4	131.5	133.6	134.4	135.1	135.4	137.6	138.5	139.0	.4	2.9
Workers, by occupational group:											
White-collar workers	131.4	131.5	133.7	134.5	135.0	135.2	137.6	138.5	138.9	.3	2.9
Professional specialty and technical	131.9	132.0	134.4	135.1	135.5	135.6	137.9	138.7	138.9	.1	2.5
Executive, administrative, and managerial	131.3	131.7	133.1	134.1	135.1	135.6	138.0	139.3	140.1	.6	3.7
Administrative support, including clerical	129.2	129.5	131.4	132.3	133.0	133.3	135.4	136.5	137.4	.7	3.3
Blue-collar workers	129.6	129.8	131.2	132.3	133.1	133.5	135.1	136.0	136.9	.7	2.9
Workers, by industry division:											
Services	132.1	132.2	134.7	135.3	135.7	135.9	138.4	139.2	139.5	.2	2.8
Services excluding schools[4]	131.2	131.6	133.3	134.4	135.4	135.5	137.8	138.2	139.0	.6	2.7
Health services	132.1	132.6	133.9	135.3	136.3	136.5	138.7	139.2	139.7	.4	2.5
Hospitals	131.9	132.4	133.7	135.2	136.3	136.5	138.6	139.1	139.7	.4	2.5
Educational services	132.1	132.2	134.8	135.3	135.7	135.8	138.4	139.3	139.5	.1	2.8
Schools	132.2	132.3	134.9	135.5	135.8	136.0	138.5	139.5	139.6	.1	2.8
Elementary and secondary	132.4	132.6	135.3	135.7	136.0	136.1	138.7	139.3	139.5	.1	2.6
Colleges and universities	131.5	131.4	133.6	134.6	135.2	135.5	137.7	139.6	139.6	.0	3.3
Public administration[2]	128.9	129.0	130.3	131.4	132.7	133.2	134.8	135.9	136.9	.7	3.2

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1999	
Private industry workers	139.4	140.1	140.8	141.8	142.6	143.7	144.5	145.2	145.8	0.4	2.2
Workers, by occupational group:											
White-collar workers	140.8	141.5	142.0	143.4	144.7	145.6	146.6	147.4	147.9	.3	2.2
Blue-collar workers	137.2	138.0	138.8	139.0	139.1	140.4	141.0	141.6	142.2	.4	2.2
Workers, by industry division:											
Goods-producing	139.9	140.9	141.5	141.5	141.5	142.5	143.0	143.2	144.3	.8	2.0
Service-producing	138.5	139.2	139.8	141.4	142.7	143.8	144.9	145.7	146.1	.3	2.4
Manufacturing	139.9	141.0	141.4	141.7	141.7	142.4	142.6	142.7	143.6	.6	1.3
Nonmanufacturing	138.9	139.5	140.2	141.5	142.7	143.9	145.0	145.8	146.3	.3	2.5

24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1997				1998				1999	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended Mar. 1999	12 months ended Mar. 1999
COMPENSATION											
Workers, by bargaining status[1]											
Union	131.0	131.8	133.2	133.5	134.0	135.3	136.8	137.5	130.8	0.4	3.0
Goods-producing	130.0	131.2	132.3	132.5	132.7	134.3	135.6	136.5	136.8	.2	3.1
Service-producing	131.9	132.4	134.0	134.5	135.3	136.2	138.0	138.5	139.2	.5	2.9
Manufacturing	130.8	131.7	133.0	133.3	133.6	134.6	136.0	136.9	137.0	.1	2.5
Nonmanufacturing	130.6	131.5	132.9	133.2	133.9	135.3	136.9	137.4	138.1	.5	3.1
Nonunion	131.8	132.8	133.9	135.3	136.7	137.8	139.3	140.1	140.8	.5	3.0
Goods-producing	132.0	133.2	134.0	134.7	135.9	136.9	137.7	138.3	139.7	1.0	2.8
Service-producing	131.5	132.5	133.7	135.3	136.7	138.0	139.7	140.6	141.1	.4	3.2
Manufacturing	133.1	134.4	135.1	135.9	137.2	138.0	138.9	139.4	140.7	.9	2.6
Nonmanufacturing	131.1	132.2	133.4	134.9	136.3	137.5	139.1	140.0	140.6	.4	3.2
Workers, by region[1]											
Northeast	132.2	133.1	134.0	135.0	136.0	137.0	138.7	139.5	140.5	.7	3.3
South	130.8	131.5	132.5	134.6	135.5	136.4	137.6	138.1	139.1	.7	2.7
Midwest (formerly North Central)	133.3	134.7	136.2	136.9	138.3	139.6	140.9	141.4	141.7	.2	2.5
West	130.3	131.4	132.5	133.4	135.2	136.6	138.5	140.0	140.3	.2	3.8
Workers, by area size[1]											
Metropolitan areas	131.7	132.8	133.9	135.1	136.4	137.5	139.1	139.8	140.4	.4	2.9
Other areas	131.4	132.4	133.8	135.3	135.9	137.1	138.2	139.4	140.5	.8	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	126.0	126.9	128.3	128.9	129.6	130.7	132.4	133.1	133.6	.4	3.1
Goods-producing	124.1	125.4	126.6	127.1	127.9	129.4	131.0	131.7	132.3	.5	3.4
Service-producing	128.2	128.8	130.4	131.2	131.8	132.2	134.1	134.8	135.4	.4	2.7
Manufacturing	125.6	126.5	127.8	128.6	129.6	130.4	132.2	133.0	133.6	.5	3.1
Nonmanufacturing	126.1	127.1	128.6	129.1	129.6	130.8	132.4	133.1	133.7	.5	3.2
Nonunion	129.1	130.3	131.6	133.0	134.5	135.7	137.4	138.3	139.0	.5	3.3
Goods-producing	128.9	130.2	131.2	132.0	133.6	134.7	135.7	136.5	137.8	1.0	3.1
Service-producing	129.1	130.2	131.6	133.2	134.6	135.9	137.9	138.8	139.3	.4	3.5
Manufacturing	130.3	131.7	132.6	133.5	135.1	136.2	137.3	138.2	139.4	.9	3.2
Nonmanufacturing	128.5	129.7	131.1	132.6	134.0	135.3	137.1	138.0	138.6	.4	3.4
Workers, by region[1]											
Northeast	128.8	129.8	130.7	131.6	132.6	133.8	135.4	136.4	137.1	.5	3.4
South	128.5	129.4	130.6	133.0	134.0	134.9	136.5	136.7	137.9	.9	2.9
Midwest (formerly North Central)	129.0	130.4	132.2	133.0	134.7	136.0	137.5	138.0	138.9	.7	3.1
West	127.7	128.9	130.2	131.2	132.9	134.5	136.7	138.4	138.2	–.1	4.0
Workers, by area size[1]											
Metropolitan areas	128.7	129.9	131.1	132.3	133.8	135.1	136.9	137.7	138.3	.4	3.4
Other areas	127.7	128.8	130.4	132.0	132.5	133.4	134.7	136.0	137.1	.8	3.5

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
Number of employees (in 000's):										
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
Time-off plans										
Participants with:										
Paid lunch time	10	9	9	10	11	10	8	9	–	–
Average minutes per day	–	25	26	27	29	26	30	29	–	–
Paid rest time	75	76	73	72	72	71	67	68	–	–
Average minutes per day	–	25	26	26	26	26	28	26	–	–
Paid funeral leave	–	–	–	88	85	84	80	83	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	–
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

26. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	5,883	9,599	11,675	10,845	11,708
Time-off plans								
Participants with:								
Paid lunch time	8	9	–	–	17	11	10	–
Average minutes per day	37	37	–	–	34	36	34	–
Paid rest time	48	49	–	–	58	56	53	–
Average minutes per day	27	26	–	–	29	29	29	–
Paid funeral leave	47	50	50	51	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	14	38	39	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	86	72	67	67	66
Paid sick leave[2]	47	53	50	50	97	95	95	94
Unpaid leave	17	18	–	–	57	51	59	–
Unpaid paternity leave	8	7	–	–	30	33	44	–
Unpaid family leave	–	–	47	48	–	–	–	93
Insurance plans								
Participants in medical care plans	69	71	66	64	93	93	90	87
Percent of participants with coverage for:								
Home health care	79	80	–	–	76	82	87	84
Extended care facilities	83	84	–	–	78	79	84	81
Physical exam	26	28	–	–	36	36	47	55
Percent of participants with employee contribution required for:								
Self coverage	42	47	52	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	75	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	1	2
Retiree protection available	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21
Participants in short-term disability plans[2]	–	–	–	29	–	–	–	–
Retirement plans								
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65	54	50	–	47	92	89	92	92
Early retirement available	95	95	–	92	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13
Terminal earnings formula	58	54	–	53	100	100	100	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	49
Participants in defined contribution plans	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans	1	2	3	4	5	5	5	5
Reimbursement accounts[3]	8	14	19	12	5	31	50	64
Premium conversion plans	–	–	–	7	–	–	–	

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[3] Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1998											1999
	1997	1998	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[P]
Number of stoppages:															
Beginning in period	29	34	1	3	1	0	4	4	3	6	1	5	3	3	1
In effect during period	34	34	1	3	2	0	4	6	6	7	4	7	7	6	5
Workers involved:															
Beginning in period (in thousands)	339	387	8.0	10.8	1.0	.0	6.1	162.9	5.5	144.7	28.9	8.0	7.1	3.8	1.4
In effect during period (in thousands)	351	387	8.0	10.8	2.1	.0	6.1	165.4	163.1	145.9	42.6	10.6	13.7	10.4	9.2
Days idle:															
Number (in thousands)	4,497	5,116	16.0	38.6	21.5	0.0	72.7	1.542.9	2,043.2	580.4	320.4	148.7	160.3	171.0	129.0
Percent of estimated working time[1]	.01	.02	.00	.00	.00	.00	.00	.05	.07	.02	.01	.01	.01	.01	.01

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.
[P] = preliminary.

28. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	160.5	163.0	162.8	163.0	163.2	163.4	163.6	164.0	164.0	163.9	164.3	164.5	165.0	166.2	166.2
Food and beverages	157.7	161.1	160.7	160.6	160.9	161.4	161.5	162.4	162.5	162.7	163.9	163.8	163.7	163.9	164.2
Food	157.3	160.7	160.3	160.1	160.5	161.0	161.1	162.0	162.1	162.3	163.6	163.3	163.3	163.4	163.7
Food at home	158.1	161.1	160.7	160.5	160.8	161.4	161.2	162.5	162.5	162.6	164.3	163.8	163.4	163.5	163.9
Cereals and bakery products	177.6	181.1	180.5	181.6	181.8	182.7	181.9	182.2	182.1	182.3	184.2	183.8	183.5	184.8	185.1
Meats, poultry, fish, and eggs	148.5	147.3	146.2	146.3	146.9	148.2	147.5	148.0	147.9	147.3	146.4	147.0	146.8	146.7	146.7
Dairy and related products[1]	145.5	150.8	148.1	148.1	148.2	150.5	152.9	155.0	155.9	157.6	161.2	162.3	161.5	156.1	156.2
Fruits and vegetables	187.5	198.2	203.9	198.1	198.2	195.9	193.5	199.5	198.8	200.7	208.6	200.3	199.9	203.3	207.2
Nonalcoholic beverages and beverage materials	133.4	133.0	132.9	132.8	132.3	132.0	132.2	132.6	132.7	131.7	133.5	134.5	134.5	134.3	134.2
Other foods at home	147.3	150.8	149.3	150.4	151.1	152.1	152.2	152.7	152.7	152.4	153.0	153.3	152.9	153.6	153.4
Sugar and sweets	147.8	150.2	149.5	150.5	149.9	150.2	150.8	150.5	149.6	150.1	151.7	151.3	151.0	151.7	153.0
Fats and oils	141.7	146.9	141.2	143.3	147.6	149.7	152.4	156.8	155.1	151.9	150.5	150.9	149.4	149.0	147.2
Other foods	161.2	165.5	164.7	165.6	165.9	166.9	166.3	166.0	166.7	166.9	167.7	168.2	168.1	169.2	168.7
Other miscellaneous foods[1,2]	–	102.6	101.4	102.5	102.6	103.5	103.6	103.5	104.8	104.9	104.1	105.9	104.9	105.6	105.0
Food away from home[1]	157.0	161.1	160.6	160.7	161.1	161.5	162.1	162.3	162.6	163.0	163.5	163.8	164.2	164.5	164.6
Other food away from home[1,2]	–	101.6	100.6	101.0	101.6	102.3	102.7	102.7	103.3	103.3	103.5	103.7	103.7	104.0	104.3
Alcoholic beverages	162.8	165.7	165.2	165.5	165.6	165.7	166.3	166.6	166.8	167.2	167.6	168.6	168.4	168.8	169.3
Housing	156.8	160.4	159.7	160.6	161.2	161.5	161.5	131.4	161.3	161.3	161.8	162.3	162.8	163.0	163.0
Shelter	176.3	182.1	181.2	181.8	182.6	183.3	183.4	183.9	184.0	184.0	184.7	185.5	186.3	186.6	186.5
Rent of primary residence	166.7	172.1	171.1	171.7	172.2	172.8	173.4	173.9	174.5	174.9	175.3	175.6	176.0	176.4	176.7
Lodging away from home[2]	–	109.0	108.7	109.6	111.7	112.9	109.8	109.5	106.3	103.8	107.1	110.5	114.5	114.6	111.8
Owners' equivalent rent of primary residence[3]	181.9	187.8	186.8	187.4	188.0	188.5	189.2	189.8	190.3	190.7	191.0	191.3	191.5	191.9	192.2
Tenants' and household insurance[1,2]	–	99.8	99.6	99.1	99.3	99.2	99.2	99.7	99.9	99.9	99.7	100.1	100.2	100.3	100.5
Fuels and utilities	130.8	128.5	127.9	131.2	131.3	130.6	130.0	127.1	126.5	126.6	126.2	126.0	125.9	125.7	126.5
Fuels	117.9	113.7	113.2	116.8	116.8	115.9	115.2	112.0	111.4	111.4	110.9	110.6	110.5	110.2	111.0
Fuel oil and other fuels	99.8	90.0	91.8	89.5	87.8	86.7	85.9	86.4	86.8	86.1	86.6	86.2	86.2	87.7	87.7
Gas (piped) and electricity	125.1	121.2	120.5	124.7	124.9	124.0	123.3	119.6	118.9	118.9	118.3	118.0	117.9	117.5	118.4
Household furnishings and operations	125.4	126.6	126.6	126.7	127.2	126.8	126.5	126.6	126.6	126.6	126.8	126.7	126.7	127.2	126.7
Apparel	132.9	133.0	135.3	132.5	129.6	131.6	133.6	135.6	135.0	130.7	127.9	129.7	132.7	135.2	134.2
Men's and boys' apparel	130.1	131.8	133.5	131.0	129.4	130.6	131.1	134.1	134.1	130.3	128.1	129.9	131.4	133.5	133.8
Women's and girls' apparel	126.1	126.0	129.7	125.8	120.6	123.8	127.8	128.8	127.5	122.4	117.7	120.6	126.3	128.7	127.3
Infants' and toddlers' apparel[1]	129.0	126.1	126.9	124.7	122.0	124.4	124.9	130.2	131.3	129.6	130.0	126.4	125.6	128.2	127.6
Footwear	127.6	128.0	128.3	128.2	127.0	127.7	128.6	130.3	130.4	127.5	125.6	124.8	126.4	129.2	127.4
Transportation	144.3	141.6	142.0	141.7	141.8	141.2	140.7	141.3	141.5	140.7	140.4	139.8	140.6	144.3	144.2
Private transportation	141.0	137.9	138.4	138.2	138.0	137.4	137.0	137.7	138.0	137.2	136.7	135.9	136.4	140.1	140.2
New and used motor vehicles[2]	100.5	100.1	99.9	99.7	99.9	99.9	99.8	100.1	100.7	100.9	100.6	99.9	99.6	99.7	99.7
New vehicles	144.3	143.4	143.3	142.6	142.7	142.8	142.3	142.5	143.5	144.1	144.4	143.8	143.4	143.3	142.9
Used cars and trucks[1]	151.1	150.6	150.0	150.9	151.3	151.1	151.9	153.0	154.0	153.1	150.6	148.3	147.4	148.3	149.6
Motor fuel	106.2	92.2	94.7	94.8	93.7	91.6	90.0	90.8	89.7	86.2	85.0	83.6	86.3	100.9	101.4
Gasoline (all types)	105.8	91.6	94.2	94.3	93.2	91.1	89.5	90.3	89.2	85.7	84.5	83.1	85.8	100.4	100.8
Motor vehicle parts and equipment	101.9	101.1	100.6	101.0	101.1	101.2	101.2	101.4	101.4	101.2	101.2	100.9	100.1	100.3	100.2
Motor vehicle maintenance and repair	162.7	167.1	165.9	166.5	166.8	167.3	168.3	169.0	169.5	169.6	169.8	170.4	170.6	170.9	171.3
Public transportation	186.7	190.3	190.4	188.2	192.0	192.2	190.2	189.9	187.4	188.4	190.4	193.1	198.8	201.4	198.4
Medical care	234.6	242.1	241.4	242.0	242.7	243.5	243.9	244.3	244.7	245.2	246.6	247.7	248.3	249.1	249.5
Medical care commodities	215.3	221.8	221.5	222.1	222.2	223.1	224.0	224.2	224.5	225.6	225.9	226.8	227.7	229.3	229.4
Medical care services	239.1	246.8	245.9	246.5	247.4	248.2	248.4	249.0	249.3	249.6	251.3	252.6	253.1	253.5	254.0
Professional services	215.4	222.2	221.7	222.5	222.8	223.3	223.7	224.2	224.4	224.6	225.8	226.8	227.4	228.2	228.6
Hospital and related services	278.4	287.5	285.6	285.8	288.2	289.5	289.2	290.2	290.8	291.4	294.4	296.2	296.6	296.3	297.0
Recreation[2]	99.8	101.1	101.0	101.2	101.1	101.3	101.3	101.1	101.3	101.2	101.7	101.8	101.8	102.0	102.2
Video and audio[1,2]	99.4	101.1	101.2	101.2	101.1	101.2	101.4	101.1	100.8	100.7	101.4	101.6	101.2	101.0	100.9
Education and communication[2]	98.4	100.3	100.1	100.1	100.0	100.1	100.9	101.0	101.0	100.7	100.9	100.9	100.8	100.7	100.4
Education[2]	97.3	102.1	100.9	100.8	101.0	102.6	104.3	104.5	104.6	104.7	105.0	105.3	105.4	105.5	105.6
Educational books and supplies	238.4	250.8	248.9	248.6	249.0	249.1	253.7	257.0	257.1	257.3	258.4	261.3	261.4	261.2	261.6
Tuition, other school fees, and child care	280.4	294.2	290.5	290.4	291.1	295.8	300.9	301.2	301.4	301.7	302.4	303.3	303.5	303.8	304.1
Communication[1,2]	100.3	98.7	99.4	99.4	99.1	97.9	97.9	97.8	97.8	97.1	97.3	96.9	96.6	96.3	95.7
Information and information processing[1,2]	100.4	98.5	99.3	99.3	99.0	97.7	97.7	97.6	97.6	96.9	96.9	96.5	96.1	95.8	95.2
Telephone services[1,2]	–	100.7	101.1	101.4	101.5	100.4	100.7	100.7	101.1	100.3	100.7	100.4	100.2	100.0	99.6
Information and information processing other than telephone services[1,4]	50.1	39.9	41.5	40.6	39.1	37.6	36.7	36.1	35.3	34.8	33.8	33.3	32.4	32.1	30.9
Personal computers and peripheral equipment[1,2]	–	78.2	82.7	80.0	75.2	71.1	68.5	67.5	65.6	64.2	61.4	59.7	57.6	56.8	55.7
Other goods and services	224.8	237.7	236.7	236.4	237.8	238.0	240.4	241.3	240.5	250.3	255.4	255.0	253.3	256.1	255.8
Tobacco and smoking products	243.7	274.8	270.0	266.9	273.2	273.7	283.5	284.9	281.3	331.2	354.2	348.7	335.9	349.9	345.5
Personal care[1]	152.7	156.7	156.6	156.8	157.0	157.1	157.5	158.1	158.0	158.3	158.9	159.4	160.0	160.2	160.7
Personal care products[1]	144.2	148.3	149.3	149.2	149.1	148.5	149.1	149.4	148.8	148.7	149.9	149.8	150.8	150.9	150.9
Personal care services[1]	162.4	166.0	165.4	165.3	166.1	166.6	167.1	167.5	167.6	168.3	168.8	169.3	169.9	170.3	171.0
Miscellaneous personal services	226.1	234.7	234.0	234.7	235.1	235.7	236.2	236.9	237.2	237.8	238.9	240.6	241.1	241.4	242.1

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Commodity and service group:															
Commodities	141.8	141.9	142.3	141.8	141.6	141.7	141.8	142.6	142.5	142.2	142.5	142.2	142.6	144.6	144.5
Food and beverages	157.7	161.1	160.7	160.6	160.9	161.4	161.5	162.4	162.5	162.7	163.9	163.8	163.7	163.9	164.2
Commodities less food and beverages	132.2	130.5	131.3	130.6	130.1	130.0	130.2	130.8	130.6	130.2	129.9	129.6	130.2	133.2	132.8
Nondurables less food and beverages	134.6	132.6	134.0	133.0	131.8	131.9	132.6	133.6	132.9	132.1	131.8	131.9	133.2	138.6	138.2
Apparel	132.9	133.0	135.3	132.5	129.6	131.6	133.6	135.6	135.0	130.7	127.9	129.7	132.7	135.2	134.2
Nondurables less food, beverages, and apparel	140.6	137.4	138.4	138.2	138.0	137.1	137.1	137.6	136.8	137.8	138.8	138.0	138.5	145.7	145.6
Durables	128.7	127.6	127.6	127.4	127.5	127.2	126.8	126.9	127.4	127.4	127.1	126.4	126.0	126.1	125.8
Services	179.4	184.2	183.4	184.2	184.9	185.3	185.5	185.5	185.6	185.7	186.3	186.9	187.6	187.8	187.9
Rent of shelter[3]	183.4	189.6	188.6	189.3	190.1	190.8	191.0	191.5	191.5	191.5	192.3	193.1	193.9	194.3	194.2
Transporatation services	185.0	187.9	187.8	187.1	187.8	187.8	187.3	188.2	188.3	188.4	188.8	189.3	190.7	191.0	190.4
Other services	209.6	216.9	216.1	216.6	216.9	217.6	219.0	219.0	219.5	219.5	220.5	221.1	221.3	221.7	221.9
Special indexes:															
All items less food	161.1	163.4	163.3	163.5	163.6	163.9	164.1	164.4	164.3	164.2	164.5	164.7	165.3	166.7	166.6
All items less shelter	155.9	157.2	157.3	157.3	157.3	157.4	157.6	157.9	157.9	157.8	158.1	158.1	158.5	159.9	159.9
All items less medical care	156.3	158.6	158.4	158.6	158.7	159.0	159.2	159.5	159.5	159.4	159.8	160.0	160.5	161.6	161.6
Commodities less food	133.4	132.0	132.7	132.1	131.5	131.4	131.6	132.3	132.1	131.7	131.4	131.1	131.7	134.6	134.3
Nondurables less food	136.3	134.6	135.9	134.9	133.8	133.9	134.6	135.6	135.0	134.2	133.9	134.0	135.3	140.4	140.1
Nondurables less food and apparel	141.8	139.2	140.1	139.9	139.7	138.9	138.9	139.5	138.8	139.7	140.7	140.0	140.5	147.0	147.0
Nondurables	146.4	146.9	147.5	146.9	146.4	146.8	147.1	148.1	147.8	147.5	147.9	147.9	148.5	151.4	151.4
Services less rent of shelter[3]	188.1	191.8	191.1	192.1	192.6	192.7	193.0	192.6	192.7	192.8	193.3	193.8	194.2	194.5	194.7
Services less medical care services	173.9	178.4	177.6	178.4	179.0	179.5	179.6	179.7	179.7	179.8	180.3	180.9	181.5	181.8	181.8
Energy	111.5	102.9	103.8	105.7	105.2	103.8	102.7	101.3	100.5	98.9	98.1	97.3	98.4	105.0	105.6
All items less energy	167.1	170.9	170.5	170.5	170.8	171.2	171.6	172.2	172.3	172.3	172.9	173.2	173.7	174.2	174.1
All items less food and energy	169.5	173.4	173.1	173.0	173.3	173.8	174.2	174.7	174.8	174.8	175.3	175.7	176.2	176.8	176.6
Commodities less food and energy	142.3	143.2	143.6	142.8	142.4	142.7	143.2	143.8	143.8	143.9	143.7	143.7	143.9	144.9	144.5
Energy commodities	105.7	92.1	94.6	94.5	93.3	91.3	89.8	90.5	89.6	86.3	85.2	83.9	86.4	99.9	100.3
Services less energy	185.0	190.6	189.8	190.3	190.9	191.5	191.8	192.3	192.4	192.5	193.2	194.0	194.7	195.0	195.0
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	157.6	159.7	159.5	159.7	159.8	160.0	160.2	160.6	160.7	160.7	161.0	161.1	161.4	162.7	162.8
Food and beverages	157.2	160.4	159.9	159.9	160.2	160.7	160.8	161.6	161.7	161.9	163.1	163.0	162.9	163.0	163.3
Food	156.8	160.0	159.6	159.5	159.8	160.4	160.4	161.3	161.4	161.5	162.8	162.6	162.6	162.6	162.9
Food at home	157.2	160.0	159.6	159.4	159.7	160.4	160.2	161.3	161.3	161.3	163.1	162.6	162.3	162.2	162.6
Cereals and bakery products	177.3	180.9	180.3	181.4	181.6	182.5	181.8	181.9	181.9	182.0	184.0	183.5	183.2	184.5	184.8
Meats, poultry, fish, and eggs	148.2	147.0	145.8	145.9	146.6	147.9	147.1	147.5	147.6	146.9	146.0	146.7	146.4	146.3	146.1
Dairy and related products[1]	145.2	150.4	147.8	147.7	147.8	150.1	152.6	154.6	155.5	157.4	161.1	162.2	161.5	155.7	155.8
Fruits and vegetables	186.6	197.0	202.8	197.1	197.3	194.9	192.5	198.4	197.6	199.0	207.3	199.3	198.7	201.7	205.3
Nonalcoholic beverages and beverage materials	132.3	131.8	131.6	131.6	131.2	130.7	130.9	131.3	131.4	130.4	132.5	133.4	133.6	133.2	133.1
Other foods at home	146.8	150.2	148.7	149.8	150.5	151.5	151.7	151.9	152.0	151.7	152.4	152.6	152.3	153.0	152.6
Sugar and sweets	147.7	150.1	149.4	150.5	149.9	150.3	150.6	150.2	149.5	150.0	151.8	151.3	151.1	151.7	152.8
Fats and oils	141.4	146.5	141.1	143.1	147.3	149.3	151.9	156.1	154.4	151.2	150.1	150.6	148.9	148.6	147.0
Other foods	161.1	165.4	164.6	165.5	165.9	166.8	166.3	165.7	166.6	166.7	167.7	168.1	168.0	169.0	168.5
Other miscellaneous foods[1,2]	–	102.6	101.5	102.5	102.8	103.5	103.7	103.3	104.9	104.9	104.2	105.9	105.0	105.2	104.7
Food away from home[1]	157.0	161.1	160.6	160.8	161.1	161.4	162.0	162.3	162.6	163.0	163.5	163.8	164.1	164.4	164.5
Other food away from home[1,2]	–	101.6	100.6	101.0	101.5	102.2	102.8	102.8	103.4	103.4	103.6	103.7	103.8	104.1	104.2
Alcoholic beverages	162.1	164.6	164.1	164.3	164.5	164.6	165.1	165.4	165.7	166.2	166.5	167.6	167.3	167.8	168.5
Housing	153.4	156.7	156.1	157.0	157.6	157.7	157.8	157.6	157.7	157.8	158.1	158.4	158.8	159.1	159.2
Shelter	171.2	176.6	175.7	176.4	177.0	177.6	177.9	178.4	178.6	178.8	179.3	179.9	180.5	180.8	180.9
Rent of primary residence	166.3	171.7	170.8	171.3	171.8	172.4	173.0	173.5	174.1	174.6	174.9	175.3	175.6	176.0	176.4
Lodging away from home[2]	–	109.0	108.6	110.0	111.9	112.8	109.8	109.7	106.6	104.0	107.1	110.3	114.2	114.5	112.0
Owners' equivalent rent of primary residence[3]	165.8	171.1	170.2	170.8	171.2	171.8	172.4	172.9	173.4	173.7	173.9	174.2	174.5	174.8	175.1
Tenants' and household insurance[1,2]	–	100.0	99.7	99.3	99.4	99.4	99.4	100.0	100.3	100.3	100.1	100.4	100.6	100.6	100.9
Fuels and utilities	130.5	128.4	127.9	131.3	131.5	130.6	130.0	126.9	126.4	126.4	126.0	125.8	125.8	125.5	126.3
Fuels	117.3	113.3	112.9	116.5	116.6	115.6	114.9	111.6	110.9	110.9	110.4	110.2	110.0	109.7	110.6
Fuel oil and other fuels	99.6	90.3	92.0	90.0	88.2	87.0	86.2	86.9	87.4	86.6	87.1	86.8	85.8	88.1	88.1
Gas (piped) and electricity	124.6	120.8	120.2	124.5	124.6	123.6	122.9	119.1	118.3	118.4	117.7	117.5	117.3	116.9	117.9
Household furnishings and operations	123.9	125.0	125.2	125.2	125.6	125.2	124.9	124.9	124.8	124.8	125.0	124.8	124.9	125.2	124.8
Apparel	132.1	131.6	133.7	131.0	128.2	129.9	132.0	134.3	134.0	129.8	127.1	128.5	131.1	133.7	133.0
Men's and boys' apparel	129.9	131.4	133.1	130.7	129.1	129.9	130.7	134.1	134.0	130.2	128.1	129.9	131.6	133.6	134.0
Women's and girls' apparel	124.9	123.9	127.4	123.4	118.6	121.3	125.5	126.9	125.9	121.0	116.4	118.8	123.9	126.5	125.5
Infants' and toddlers' apparel[1]	130.1	126.7	127.4	125.4	122.7	125.0	125.8	131.0	132.7	130.9	130.8	127.2	126.5	129.3	128.9
Footwear	128.5	128.7	129.0	128.8	127.4	128.4	129.3	130.9	130.9	128.2	126.1	125.4	126.8	129.5	127.9
Transportation	143.6	140.5	141.1	140.9	140.8	140.2	139.6	140.4	140.6	139.6	139.1	138.3	139.1	142.9	143.1
Private transportation	141.3	138.0	138.6	138.5	138.2	137.6	137.1	137.9	138.2	137.1	136.5	135.6	136.2	140.1	140.3
New and used motor vehicles[2]	100.7	100.3	100.1	100.0	100.2	100.2	100.1	100.4	101.1	101.1	100.6	99.9	99.5	99.7	99.8
New vehicles	145.5	144.6	144.5	143.8	143.9	144.0	143.4	143.6	144.7	145.3	145.5	145.0	144.5	144.5	144.0
Used cars and trucks[1]	152.6	152.0	151.3	152.3	152.7	152.4	153.2	154.2	155.2	154.3	151.8	149.6	148.7	149.6	150.9

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Motor fuel	106.2	92.2	95.0	95.0	93.9	91.7	90.1	90.9	89.7	86.0	85.0	83.5	86.4	100.8	101.3
Gasoline (all types)	105.8	91.7	94.5	94.5	93.4	91.2	89.6	90.4	89.2	85.5	84.5	83.0	85.9	100.3	100.8
Motor vehicle parts and equipment	101.0	100.5	99.9	100.3	100.5	100.5	100.5	100.7	100.7	100.5	100.6	100.5	99.8	99.6	99.7
Motor vehicle maintenance and repair	163.7	168.2	167.0	167.6	168.0	168.4	169.4	170.3	170.8	170.9	171.2	171.8	172.0	172.3	172.7
Public transportation	184.2	187.1	187.4	185.5	188.7	188.9	186.5	186.3	184.2	185.1	186.8	189.1	194.1	196.4	193.9
Medical care	234.0	241.4	240.6	241.4	242.1	242.8	243.2	243.7	244.0	244.4	245.8	246.9	247.5	248.2	248.7
Medical care commodities	212.6	218.6	218.3	218.9	219.1	219.9	220.8	220.8	221.1	222.1	222.4	223.2	223.9	225.7	225.7
Medical care services	238.8	246.6	245.6	246.4	247.2	248.0	248.2	248.8	249.1	249.4	251.0	252.3	252.8	253.3	253.8
Professional services	216.7	223.7	223.2	224.1	224.4	224.8	225.3	225.8	225.9	226.2	227.3	228.3	228.9	229.7	230.2
Hospital and related services	274.7	283.6	281.7	282.0	284.3	285.6	285.3	286.4	286.9	287.4	290.4	292.4	292.8	292.3	293.0
Recreation[2]	–	100.9	100.9	101.0	100.9	101.1	101.0	100.8	100.8	100.8	101.2	101.3	101.3	101.4	101.5
Video and audio[1,2]	–	101.1	101.1	101.1	101.0	101.1	101.3	101.0	100.8	100.7	101.3	101.4	101.0	100.8	100.6
Education and communication[2]	–	100.4	100.3	100.3	100.2	100.3	101.1	101.1	101.2	100.9	101.2	101.2	101.0	100.9	100.7
Education[2]	–	102.1	100.9	100.9	101.1	102.6	104.3	104.5	104.6	104.7	105.1	105.5	105.6	105.7	105.9
Educational books and supplies	240.4	253.1	251.3	250.9	251.3	251.3	255.9	259.4	259.5	259.7	260.8	263.9	264.0	263.9	264.3
Tuition, other school fees, and child care	274.6	288.5	284.9	284.7	285.3	289.9	294.9	295.2	295.4	295.8	296.6	297.8	298.0	298.3	298.7
Communication[1,2]	–	99.1	99.7	99.8	99.6	98.4	98.5	98.4	98.5	97.8	98.1	97.7	97.4	97.0	96.5
Information and information processing[1,2]	–	99.0	99.7	99.8	99.5	98.3	98.4	98.3	98.4	97.7	97.8	97.4	97.1	96.7	96.2
Telephone services[1,2]	–	100.7	101.2	101.4	101.5	100.5	100.8	100.8	101.2	100.4	100.8	100.5	100.4	100.0	99.8
Information and information processing other than telephone services[1,4]	51.1	41.2	42.6	41.8	40.2	38.9	38.2	37.4	36.6	36.0	35.0	34.4	33.5	33.0	31.8
Personal computers and peripheral equipment[1,2]	–	77.9	81.9	79.5	74.4	71.2	69.0	67.5	65.3	64.0	61.1	59.3	56.9	55.9	55.1
Other goods and services	221.6	236.1	234.8	234.0	236.0	236.2	239.4	240.4	239.2	252.6	259.2	258.3	255.6	259.5	258.8
Tobacco and smoking products	243.3	274.8	270.1	266.8	273.4	273.7	283.7	285.2	281.4	332.0	354.5	348.9	336.0	350.5	345.9
Personal care[1]	152.6	156.8	156.7	156.8	157.0	157.2	157.7	158.3	158.1	158.3	159.1	159.6	160.3	160.4	160.8
Personal care products[1]	145.1	149.3	150.5	150.3	150.1	149.6	150.1	150.4	149.8	149.6	150.7	150.8	151.6	151.7	151.6
Personal care services[1]	162.5	166.3	165.7	165.6	166.4	167.0	167.4	167.8	168.0	168.6	169.1	169.6	170.2	170.6	171.4
Miscellaneous personal services	225.2	234.0	233.0	233.6	233.9	234.9	236.0	236.6	236.9	237.4	239.1	240.8	241.4	241.7	242.3
Commodity and service group:															
Commodities	141.8	141.8	142.1	141.7	141.5	141.5	141.7	142.4	142.4	142.3	142.5	142.2	142.5	144.7	144.6
Food and beverages	157.2	160.4	159.9	159.9	160.2	160.7	160.8	161.6	161.7	161.9	163.1	163.0	162.9	163.0	163.3
Commodities less food and beverages	132.4	130.6	131.4	130.7	130.3	130.0	130.3	131.0	130.9	130.6	130.4	129.9	130.3	133.6	133.4
Nondurables less food and beverages	134.5	132.1	133.6	132.5	131.4	131.3	132.1	133.2	132.5	132.1	132.0	131.8	133.1	139.1	138.8
Apparel	132.1	131.6	133.7	131.0	128.2	129.9	132.0	134.3	134.0	129.8	127.1	128.5	131.1	133.7	133.0
Nondurables less food, beverages, and apparel	140.4	137.0	138.2	137.8	137.7	136.6	136.6	137.3	136.3	137.9	139.2	138.2	138.7	146.7	146.6
Durables	128.4	127.3	127.3	127.2	127.3	127.0	126.7	126.9	127.4	127.4	126.9	126.1	125.7	125.8	125.6
Services	176.5	181.0	180.3	181.1	181.6	181.9	182.2	182.3	182.4	182.5	183.0	183.5	184.0	184.2	184.4
Rent of shelter[3]	164.7	170.1	169.2	169.8	170.4	171.0	171.3	171.8	172.0	172.2	172.7	173.2	173.8	174.1	174.2
Transporatation services	182.6	185.4	185.4	184.9	185.2	185.1	184.7	185.8	186.1	186.1	186.4	186.8	187.8	187.9	187.5
Other services	206.4	213.7	213.0	213.4	213.7	214.3	215.7	215.7	216.2	216.1	217.1	217.7	217.8	218.1	218.4
Special indexes:															
All items less food	157.6	159.5	159.4	159.6	159.7	159.8	160.0	160.4	160.4	160.4	160.5	160.6	161.1	162.6	162.6
All items less shelter	154.0	155.0	155.1	155.1	155.0	155.1	155.3	155.7	155.7	155.6	155.9	155.8	156.1	157.7	157.7
All items less medical care	154.0	155.8	155.7	155.9	156.0	156.1	156.3	156.8	156.8	156.8	157.1	157.1	157.5	158.8	158.8
Commodities less food	133.6	132.0	132.7	132.1	131.5	131.4	131.7	132.4	132.2	132.0	131.8	131.3	131.8	135.0	134.8
Nondurables less food	136.2	134.1	135.5	134.4	133.4	133.3	134.0	135.2	134.5	134.1	134.1	134.0	135.1	140.8	140.6
Nondurables less food and apparel	141.6	138.7	139.7	139.4	139.3	138.3	138.4	139.0	138.2	139.7	140.9	140.0	140.5	147.9	147.9
Nondurables	146.2	146.5	147.1	146.5	146.1	146.3	146.7	147.7	147.4	147.3	147.8	147.7	148.3	151.4	151.4
Services less rent of shelter[3]	167.6	170.7	170.2	171.2	171.5	171.5	171.8	171.3	171.4	171.5	171.9	172.3	172.6	172.7	173.0
Services less medical care services	171.2	175.4	174.7	175.5	176.0	176.3	176.6	176.6	176.8	176.9	177.3	177.8	178.2	178.4	178.6
Energy	111.1	102.1	103.2	105.0	104.5	102.9	101.8	100.5	99.6	97.8	97.0	96.1	97.5	104.5	105.2
All items less energy	164.1	167.6	167.3	167.2	167.4	167.8	168.3	168.9	169.1	169.3	169.8	170.0	170.2	170.7	170.7
All items less food and energy	166.0	169.6	169.3	169.2	169.4	169.8	170.3	170.9	171.1	171.3	171.6	171.9	172.2	172.9	172.8
Commodities less food and energy	141.9	142.7	143.1	142.3	142.0	142.2	142.8	143.5	143.6	144.1	144.0	143.7	143.7	144.8	144.5
Energy commodities	105.9	92.3	95.0	94.8	93.7	91.5	90.0	90.8	89.7	86.2	85.2	83.8	86.6	100.2	100.6
Services less energy	182.2	187.7	186.9	187.3	187.9	188.4	188.8	189.3	189.6	189.7	190.3	190.9	191.5	191.8	191.9

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

– Data not available.

NOTE: Index applies to a month as a whole, not to any specific date.

29. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	All Urban Consumers							Urban Wage Earners						
		1998		1999					1998		1999				
		Apr.	May	Jan.	Feb.	Mar.	Apr.	May	Apr.	May	Jan.	Feb.	Mar.	Apr.	May
U.S. city average	M	162.5	162.8	164.3	164.5	165.0	166.2	166.2	159.1	159.5	161.0	161.1	161.4	162.7	162.8
Region and area size[2]															
Northeast urban	M	169.5	169.4	171.4	171.6	171.9	172.8	172.8	166.3	166.4	168.4	168.3	168.5	169.5	169.7
Size A—More than 1,500,000	M	170.2	170.2	172.5	172.4	172.8	173.6	173.6	166.0	166.1	168.5	168.1	168.3	169.3	169.4
Size B/C—50,000 to 1,500,000[3]	M	102.1	101.8	102.6	103.0	103.2	103.9	103.9	101.5	101.5	102.4	102.6	102.8	103.5	103.5
Midwest urban[4]	M	159.0	159.4	160.4	160.5	161.0	162.2	162.2	155.0	155.6	156.6	156.5	156.9	158.2	158.3
Size A—More than 1,500,000	M	160.1	160.5	161.6	161.8	162.4	163.6	163.6	155.4	155.9	157.1	157.2	157.5	158.8	158.9
Size B/C—50,000 to 1,500,000[3]	M	101.9	102.3	102.6	102.6	103.0	103.7	103.7	101.7	102.1	102.3	102.2	102.6	103.5	103.4
Size D—Nonmetropolitan (less than 50,000)	M	153.2	153.4	155.5	155.6	155.7	156.4	156.5	150.9	151.3	153.6	153.4	153.4	154.4	154.4
South urban	M	158.5	158.8	159.9	160.0	160.6	161.5	161.6	156.4	156.7	157.9	158.0	158.4	159.4	159.7
Size A—More than 1,500,000	M	157.6	157.7	158.9	158.9	159.7	160.5	160.5	155.1	155.3	156.4	156.4	156.9	157.9	158.1
Size B/C—50,000 to 1,500,000[3]	M	102.0	102.2	102.9	103.0	103.3	103.9	104.1	101.5	101.8	102.5	102.6	102.8	103.5	103.7
Size D—Nonmetropolitan (less than 50,000)	M	159.1	159.3	160.8	160.9	161.5	162.6	162.1	159.1	159.6	161.1	161.0	161.5	162.7	162.6
West urban	M	163.6	164.3	166.4	166.9	167.3	169.0	168.7	159.6	160.3	162.4	162.7	163.2	164.9	164.7
Size A—More than 1,500,000	M	164.2	165.0	167.3	167.8	168.2	170.0	169.8	158.5	159.4	161.6	161.9	162.3	164.2	164.0
Size B/C—50,000 to 1,500,000[3]	M	102.2	102.4	103.6	103.8	104.1	105.1	104.8	102.0	102.2	103.4	103.6	104.0	105.0	104.7
Size classes:															
A[5]	M	147.0	147.3	148.9	149.0	149.5	150.5	150.5	145.4	145.8	147.4	147.4	147.7	148.9	149.0
B/C[3]	M	102.0	102.2	102.9	103.0	103.3	104.1	104.1	101.6	101.9	102.6	102.6	102.9	103.7	103.8
D	M	158.5	158.8	160.6	160.7	161.1	162.1	161.9	157.3	157.8	159.6	159.4	159.8	160.9	160.8
Selected local areas[6]															
Chicago–Gary–Kenosha, IL–IN–WI	M	164.8	165.6	166.1	166.4	167.0	167.6	168.2	159.0	159.9	160.5	160.6	161.1	161.7	162.3
Los Angeles–Riverside–Orange County, CA	M	161.8	162.3	164.2	164.6	165.0	166.6	166.2	155.6	156.2	157.8	158.1	158.3	160.1	159.7
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	173.0	173.0	175.0	175.1	175.5	176.0	176.1	168.5	168.6	170.8	170.6	170.8	171.3	171.5
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	170.9	174.1	–	174.8	–	174.2	–	168.9	172.2	–	172.3	–	172.6
Cleveland–Akron, OH	1	–	159.2	160.6	–	161.2	–	161.5	–	151.2	152.7	–	152.9	–	153.7
Dallas–Ft Worth, TX	1	–	153.0	155.0	–	156.4	–	157.2	–	152.8	154.6	–	155.8	–	157.0
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	101.5	102.8	–	103.2	–	103.6	–	101.3	102.7	–	102.8	–	103.4
Atlanta, GA	2	160.8	–	–	161.9	–	164.0	–	157.7	–	–	159.1	–	160.9	–
Detroit–Ann Arbor–Flint, MI	2	159.1	–	–	161.2	–	164.1	–	153.5	–	–	155.8	–	158.7	–
Houston–Galveston–Brazoria, TX	2	146.3	–	–	146.6	–	148.3	–	144.8	–	–	145.0	–	146.6	–
Miami–Ft. Lauderdale, FL	2	160.2	–	–	161.4	–	161.7	–	157.4	–	–	158.8	–	159.1	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	167.1	–	–	168.6	–	171.1	–	166.5	–	–	167.8	–	170.6	–
San Francisco–Oakland–San Jose, CA	2	164.6	–	–	169.4	–	172.2	–	160.8	–	–	165.7	–	168.8	–
Seattle–Tacoma–Bremerton, WA	2	166.4	–	–	170.6	–	172.2	–	161.9	–	–	166.0	–	167.8	–

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Portland–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses. Index applies to a month as a whole, not to any specific date.

30. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1990	1991	1992	1993	1994	1995	1996	1997	1998
Consumer Price Index for All Urban Consumers:									
All items:									
Index	130.7	136.2	140.3	144.5	148.2	152.4	156.9	160.5	163.0
Percent change	5.4	4.2	3.0	3.0	2.6	2.8	3.0	2.3	1.6
Food and beverages:									
Index	132.1	136.8	138.7	141.6	144.9	148.9	153.7	157.7	161.1
Percent change	5.8	3.6	1.4	2.1	2.3	2.8	3.2	2.6	2.2
Housing:									
Index	128.5	133.6	137.5	141.2	144.8	148.5	152.8	156.8	160.4
Percent change	4.5	4.0	2.9	2.7	2.5	2.6	2.9	2.6	2.3
Apparel:									
Index	124.1	128.7	131.9	133.7	133.4	132.0	131.7	132.9	133.0
Percent change	4.6	3.7	2.5	1.4	-.2	-1.0	-0.2	.9	.1
Transportation:									
Index	120.5	123.8	126.5	130.4	134.3	139.1	143.0	144.3	141.6
Percent change	5.6	2.7	2.2	3.1	3.0	3.6	2.8	0.9	-1.9
Medical care:									
Index	162.8	177.0	190.1	201.4	211.0	220.5	228.2	234.6	242.1
Percent change	9.0	8.7	7.4	5.9	4.8	4.5	3.5	2.8	3.2
Other goods and services:									
Index	159.0	171.6	183.3	192.9	198.5	206.9	215.4	224.8	237.7
Percent change	7.7	7.9	6.8	5.2	2.9	4.2	4.1	4.4	5.7
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	129.0	134.3	138.2	142.1	145.6	149.8	154.1	157.6	159.7
Percent change	5.2	4.1	2.9	2.8	2.5	2.9	2.9	2.3	1.3

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		1998								1999				
	1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Finished goods	131.8	130.7	130.6	130.7	131.0	130.7	130.6	131.4	130.9	131.1	131.4	130.9	131.2	131.8	132.4
Finished consumer goods	130.2	128.9	128.9	129.1	129.4	129.2	129.1	129.8	129.0	129.4	129.7	129.2	129.6	130.4	131.1
Finished consumer foods	134.5	134.3	133.6	133.8	134.7	135.2	135.4	135.5	134.9	134.5	135.6	133.9	134.6	133.2	134.4
Finshed consumer goods excluding foods	128.2	126.4	126.7	127.0	127.0	126.4	126.3	127.1	126.4	127.1	127.1	127.0	127.3	129.1	129.5
Nondurable goods less food	124.3	122.2	122.8	123.4	123.3	122.7	122.8	122.5	121.4	122.7	122.9	122.7	123.2	125.9	126.5
Durable goods	133.7	132.9	132.3	131.8	132.0	131.5	131.0	134.4	134.4	133.8	133.3	133.4	133.1	132.9	132.9
Capital equipment	138.2	137.6	137.3	137.2	137.1	136.8	136.7	138.1	138.2	137.9	137.8	137.9	137.8	137.7	137.8
Intermediate materials, supplies, and components	125.6	123.0	123.5	123.5	123.5	123.2	122.9	122.3	121.8	120.9	120.9	120.5	120.8	121.6	122.1
Materials and components for manufacturing	128.3	126.1	126.8	126.3	126.0	126.0	125.5	125.0	124.6	124.1	123.9	123.6	123.5	123.3	123.6
Materials for food manufacturing	123.2	123.2	123.7	123.0	122.9	124.6	125.1	125.4	125.5	124.0	124.3	122.4	121.1	117.8	119.1
Materials for nondurable manufacturing	129.6	126.7	127.9	127.4	126.9	126.3	125.0	124.4	123.9	123.3	123.0	122.5	122.7	122.9	123.0
Materials for durable manufacturing	132.8	128.0	129.2	128.1	127.8	127.8	127.2	125.9	125.1	124.2	123.5	123.6	123.4	123.2	124.2
Components for manufacturing	126.4	125.9	126.0	126.0	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.7	125.7	125.7	125.6
Materials and components for construction	146.5	146.8	146.9	146.7	147.2	147.4	147.3	146.7	146.6	146.6	146.9	147.2	147.7	147.9	148.3
Processed fuels and lubricants	89.3	81.1	81.7	83.1	83.2	82.2	82.3	80.8	79.0	75.8	76.1	75.4	76.7	80.5	82.2
Containers	136.0	140.8	141.7	141.4	141.3	140.7	140.6	139.5	139.4	138.7	138.3	137.8	138.0	140.3	141.1
Supplies	135.9	134.8	134.8	134.7	135.1	134.7	134.3	134.1	134.3	134.3	134.1	133.9	133.7	133.9	133.7
Crude materials for further processing	111.1	96.8	100.5	97.6	98.1	94.3	92.1	94.0	93.6	89.8	90.1	87.9	89.5	90.4	96.1
Foodstuffs and feedstuffs	112.2	103.9	106.2	106.2	103.7	103.3	101.3	103.7	102.4	97.0	101.2	98.8	98.9	95.8	99.7
Crude nonfood materials	106.4	88.4	92.9	88.2	90.6	84.7	82.5	83.9	84.1	81.6	79.2	77.3	79.8	83.5	90.2
Special groupings:															
Finished goods, excluding foods	130.9	129.5	129.6	129.7	129.7	129.2	129.1	130.1	129.6	130.0	130.0	129.9	130.1	131.3	131.7
Finished energy goods	83.4	75.1	76.3	77.2	76.9	75.4	75.4	74.6	72.8	70.8	71.3	70.6	71.4	75.8	77.3
Finished goods less energy	140.2	141.1	140.7	140.6	141.0	141.1	141.0	142.2	142.1	142.9	143.0	142.7	142.8	142.4	142.6
Finished consumer goods less energy	141.0	142.5	141.9	142.0	142.5	142.7	142.7	143.8	143.6	144.9	145.1	144.6	144.8	144.2	144.5
Finished goods less food and energy	142.4	143.7	143.4	143.3	143.4	143.3	143.1	144.7	144.8	146.1	145.9	146.0	146.0	145.9	145.8
Finished consumer goods less food and energy	145.1	147.7	147.3	147.2	147.4	147.5	147.4	149.1	149.1	151.6	151.2	151.5	151.4	151.3	151.1
Consumer nondurable goods less food and energy	153.4	159.1	158.8	159.0	159.2	159.8	160.0	160.3	160.3	165.4	165.2	165.5	165.7	165.8	165.3
Intermediate materials less foods and feeds	125.7	123.4	123.9	124.0	123.9	123.6	123.4	122.7	122.2	121.3	121.2	121.0	121.3	122.3	122.8
Intermediate foods and feeds	125.4	116.2	116.3	115.6	116.4	116.5	115.2	114.6	115.5	114.5	144.6	112.7	110.9	108.7	109.5
Intermediate energy goods	89.0	80.8	81.5	82.8	82.9	81.9	82.0	80.5	78.8	75.5	75.9	75.1	76.4	80.2	81.9
Intermediate goods less energy	133.7	132.4	132.9	132.5	132.5	132.4	132.0	131.5	131.4	131.1	130.9	130.7	130.7	130.7	130.9
Intermediate materials less foods and energy	134.2	133.5	133.9	133.6	133.6	133.4	133.1	132.7	132.4	132.1	131.9	131.9	132.0	132.2	132.3
Crude energy materials	87.3	68.6	72.7	66.9	70.9	64.5	62.2	65.6	66.9	64.2	61.0	57.8	61.3	66.5	74.4
Crude materials less energy	123.5	113.6	116.6	116.4	113.9	112.5	110.6	111.1	109.3	104.9	108.1	106.8	106.7	104.1	107.7
Crude nonfood materials less energy	156.5	142.1	147.2	146.6	143.8	139.8	137.9	133.2	130.2	128.1	128.8	130.7	130.0	128.9	131.4

32. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		1998								1999				
		1997	1998	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
–	**Total mining industries**	86.1	70.8	74.2	69.6	72.3	67.7	65.7	67.9	68.9	66.8	64.1	62.5	64.6	68.0	74.3
10	Metal mining	85.8	73.2	75.5	73.9	74.7	71.6	72.4	71.0	71.0	69.5	68.2	69.3	68.9	67.9	70.4
12	Coal mining (12/85 = 100)	92.2	89.5	90.2	90.2	89.9	87.6	87.3	88.8	89.6	91.4	85.5	89.2	88.7	89.2	90.0
13	Oil and gas extraction (12/85 = 100)	87.5	68.3	72.6	66.6	70.1	64.6	61.8	64.6	65.9	62.9	60.3	57.3	60.3	64.7	72.9
14	Mining and quarrying of nonmetallic minerals, except fuels	128.8	132.2	132.2	132.5	132.6	132.8	132.9	132.9	132.8	132.7	133.0	133.5	133.7	134.1	134.1
–	**Total manufacturing industries**	127.5	126.2	126.4	126.2	126.2	126.0	125.9	126.4	126.2	125.9	126.2	125.9	126.2	127.4	127.7
20	Food and kindred products	127.9	126.3	125.9	126.4	126.6	127.4	127.1	126.6	126.6	126.1	126.6	125.8	125.5	124.2	125.4
21	Tobacco manufactures	210.8	243.1	237.7	237.9	237.9	246.4	247.0	247.7	248.4	316.0	316.5	316.3	315.8	316.0	316.2
22	Textile mill products	118.8	118.6	119.1	119.0	118.7	118.7	118.3	117.8	117.8	117.6	117.1	116.6	116.8	116.3	116.4
23	Apparel and other finished products made from fabrics and similar materials	123.4	124.8	124.9	124.9	124.9	124.9	125.1	125.3	125.0	124.9	125.0	125.1	125.0	125.1	125.2
24	Lumber and wood products, except furniture	158.9	157.0	157.4	155.6	157.0	158.2	157.3	155.3	155.2	155.7	156.7	158.3	160.1	160.1	161.6
25	Furniture and fixtures	138.2	139.7	139.7	139.6	139.6	139.7	139.7	140.1	140.0	140.2	140.5	140.5	140.8	140.7	141.0
26	Paper and allied products	133.5	136.2	137.0	136.7	136.7	136.3	135.5	134.6	134.0	133.5	133.0	132.6	133.2	134.0	134.7
27	Printing, publishing, and allied industries	169.1	174.0	173.9	173.6	173.7	173.7	174.3	174.9	175.2	175.2	176.4	176.5	176.5	176.9	177.2
28	Chemicals and allied products	147.1	148.7	149.7	149.5	149.5	149.1	148.5	148.3	148.1	147.9	147.5	147.3	148.1	148.5	147.7
29	Petroleum refining and related products	85.6	66.3	70.2	68.0	67.0	63.6	64.2	65.5	63.3	56.3	58.6	56.2	59.3	73.3	75.1
30	Rubber and miscellaneous plastics products	122.8	122.1	122.3	122.1	121.9	121.9	121.9	121.6	121.7	121.8	121.5	121.4	121.2	121.9	121.7
31	Leather and leather products	137.1	137.1	137.2	137.2	137.3	137.1	137.2	137.1	136.5	136.7	135.8	136.1	136.8	136.2	135.9
32	Stone, clay, glass, and concrete products	127.4	129.3	129.0	129.4	129.9	130.1	130.2	130.4	130.3	130.2	130.7	131.5	131.7	132.1	132.1
33	Primary metal industries	124.7	120.9	122.1	121.6	120.9	120.6	120.1	119.1	118.0	116.9	115.9	115.1	114.9	114.6	114.9
34	Fabricated metal products, except machinery and transportation transportation equipment	127.6	128.7	128.8	128.9	128.8	128.8	128.9	128.7	128.8	128.7	128.8	128.8	128.8	128.9	128.8
35	Machinery, except electrical	118.5	117.7	117.7	117.7	117.7	117.5	117.6	117.4	117.4	117.3	117.4	117.4	117.5	117.5	117.5
36	Electrical and electronic machinery, equipment, and supplies	111.6	110.4	110.4	110.4	110.4	110.3	110.2	110.0	110.1	110.0	110.0	109.9	109.9	109.8	109.7
37	Transportation	134.1	133.6	133.0	132.5	132.7	132.2	131.8	135.4	135.4	134.9	134.5	134.8	134.3	134.2	134.2
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	125.6	126.0	126.2	126.2	125.8	125.9	125.9	125.8	126.1	125.9	126.6	126.6	126.4	126.3	126.7
39	Miscellaneous manufacturing industries (12/85 = 100)	129.0	129.7	129.7	129.6	129.7	129.8	129.9	129.8	129.7	129.8	130.2	130.3	130.3	130.2	130.4
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	108.9	111.6	111.3	111.5	111.9	112.1	112.4	112.6	112.5	112.7	113.6	113.9	113.9	114.4	114.4
43	U.S. Postal Service (06/89 = 100)	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	135.4	135.4	135.4	135.4	135.4
44	Water transportation (12/92 = 100)	104.2	105.6	105.3	106.1	107.9	108.1	108.9	108.4	107.3	105.7	106.0	106.0	105.9	106.1	106.1
45	Transportation by air (12/92 = 100)	125.3	124.5	124.3	124.2	124.2	124.3	125.2	125.4	126.1	126.5	126.6	128.4	128.5	130.0	129.6
46	Pipelines, except natural gas (12/92 = 100)	98.8	99.2	99.3	99.3	99.2	99.2	99.2	99.2	99.2	99.2	98.4	98.2	98.2	98.5	98.5

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1990	1991	1992	1993	1994	1995	1996	1997	1998
Finished goods									
Total	119.2	121.7	123.2	124.7	125.5	127.9	131.3	131.8	130.7
Foods	124.4	124.1	123.3	125.7	126.8	129.0	133.6	134.5	134.3
Energy	75.0	78.1	77.8	78.0	77.0	78.1	83.2	83.4	75.1
Other	126.6	131.1	134.2	135.8	137.1	140.0	142.0	142.4	143.7
Intermediate materials, supplies, and components									
Total	114.5	114.4	114.7	116.2	118.5	124.9	125.7	125.6	123.0
Foods	117.9	115.3	113.9	115.6	118.5	119.5	125.3	123.2	123.2
Energy	85.5	85.1	84.3	84.6	83.0	84.1	89.8	89.0	80.8
Other	120.9	121.4	122.0	123.8	127.1	135.2	134.0	134.2	133.5
Crude materials for further processing									
Total	108.9	101.2	100.4	102.4	101.8	102.7	113.8	111.1	96.8
Foods	113.1	105.5	105.1	108.4	106.5	105.8	121.5	112.2	103.9
Energy	85.9	80.4	78.8	76.7	72.1	69.4	85.0	87.3	68.6
Other	107.3	97.5	94.2	94.1	97.0	105.8	105.7	103.5	84.5

34. U.S. export price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1998								1999				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
0	**Food and live animals**	91.3	90.9	92.3	89.6	86.7	87.7	89.1	89.5	90.4	89.2	87.8	88.2	89.2
01	Meat and meat preparations	93.7	97.8	97.9	98.4	96.3	93.8	90.7	89.9	90.2	93.3	90.0	88.9	89.9
04	Cereals and cereal preparations	85.9	82.6	82.3	74.9	70.2	73.4	78.2	78.9	79.3	77.8	75.8	76.7	76.2
05	Vegetables, fruit, and nuts, prepared fresh or dry	96.4	98.4	101.6	102.2	99.2	99.4	99.3	99.7	103.2	97.9	94.9	94.8	97.6
2	**Crude materials, inedible, except fuels**	83.0	82.0	82.0	79.9	77.9	75.5	75.7	76.3	75.6	75.0	74.0	74.1	74.6
21	Hides, skins, and furskins, raw	85.9	84.8	81.8	83.9	83.5	80.9	80.1	85.7	82.7	81.4	81.5	78.9	79.0
22	Oilseeds and oleaginous fruits	106.7	102.6	106.6	95.3	91.8	87.9	93.3	95.6	91.4	84.9	78.3	80.4	79.5
24	Cork and wood	82.6	82.0	82.4	82.4	82.2	82.5	81.5	81.4	81.4	81.5	81.5	81.8	81.7
25	Pulp and waste paper	63.5	64.0	64.5	64.5	62.7	59.1	57.6	57.7	59.7	61.3	62.0	61.8	62.8
26	Textile fibers and their waste	77.4	79.3	78.5	76.9	76.3	73.7	71.4	70.6	70.4	70.8	69.7	69.8	70.1
27	Crude fertilizers and crude minerals	97.0	97.0	97.1	96.9	96.9	95.1	95.1	95.1	93.4	93.4	93.6	93.5	93.6
28	Metalliferous ores and metal scrap	79.8	76.6	73.0	72.6	69.7	67.5	67.8	67.9	67.7	68.8	69.8	68.6	70.6
3	**Mineral fuels, lubricants, and related products**	104.7	103.2	96.3	94.7	93.4	94.5	94.5	93.7	93.3	93.4	93.1	99.6	101.1
32	Coal, coke, and briquettes	100.1	100.1	99.9	99.5	99.4	99.5	99.4	99.4	99.3	99.3	99.3	98.3	98.4
33	Petroleum, petroleum products, and related materials	108.7	106.8	95.2	92.9	90.8	93.8	93.9	92.2	91.4	91.4	90.9	103.3	106.1
4	**Animal and vegetable oils, fats, and waxes**	106.6	107.9	104.4	103.4	102.7	102.8	102.9	99.7	98.0	90.6	82.6	82.8	81.9
5	**Chemicals and related products, n.e.s.**	93.1	92.6	92.2	92.1	91.8	91.2	91.2	91.0	90.6	90.6	90.5	90.5	90.9
54	Medicinal and pharmaceutical products	101.6	101.6	101.6	101.6	101.6	101.0	101.0	100.6	100.1	100.2	100.4	100.6	100.6
55	Essential oils; polishing and cleaning preparations	101.4	101.4	101.4	101.4	102.7	102.8	101.7	101.6	101.3	101.4	101.5	101.4	101.8
57	Plastics in primary forms (12/92 = 100)	90.5	88.9	88.8	87.9	87.6	85.9	85.9	85.6	84.6	84.4	84.4	85.8	86.9
58	Plastics in nonprimary forms (12/92 = 100)	99.1	97.9	97.2	97.6	97.3	97.1	95.9	95.4	95.9	95.4	96.4	96.1	96.3
59	Chemical materials and products, n.e.s.	100.4	100.6	100.4	100.4	100.0	100.5	101.1	101.2	100.4	100.8	100.4	100.2	100.5
6	**Manufactured goods classified chiefly by materials**	98.2	97.9	97.5	97.3	96.8	96.6	96.7	96.4	96.7	96.8	96.4	96.5	96.7
62	Rubber manufactures, n.e.s.	101.6	101.9	102.2	102.7	102.4	104.3	106.1	106.0	106.5	107.6	106.8	105.9	106.1
64	Paper, paperboard, and articles of paper, pulp, and paperboard	84.1	83.8	82.7	82.2	81.3	81.3	81.9	81.3	80.3	80.8	80.9	81.9	83.1
66	Nonmetallic mineral manufactures, n.e.s.	106.9	106.7	106.6	106.8	106.8	107.1	107.2	107.3	106.9	106.9	106.5	106.6	106.4
68	Nonferrous metals	93.6	88.1	87.4	86.7	85.5	85.7	85.4	83.9	84.5	85.4	84.0	84.3	84.7
7	**Machinery and transport equipment**	99.2	98.7	98.4	98.3	98.2	98.3	98.2	98.2	98.1	98.1	97.9	98.0	97.8
71	Power generating machinery and equipment	107.0	107.1	106.8	106.8	107.0	107.0	108.0	108.5	109.1	109.3	109.4	109.5	109.5
72	Machinery specialized for particular industries	105.1	105.2	105.3	105.3	105.5	105.5	105.5	105.2	105.7	105.6	105.7	105.8	105.8
74	General industrial machines and parts, n.e.s., and machine parts	106.2	106.1	106.3	106.5	106.4	106.7	106.5	106.5	107.0	107.4	107.2	107.3	107.3
75	Computer equipment and office machines	79.0	76.5	76.0	75.4	74.8	74.5	74.5	74.4	73.6	73.3	73.0	72.7	72.2
76	Telecommunications and sound recording and reproducing apparatus and equipment	98.7	98.7	98.1	98.2	98.2	98.1	97.5	97.6	97.6	97.4	97.6	97.5	97.3
77	Electrical machinery and equipment	92.6	92.1	91.3	91.1	91.2	91.2	90.8	90.6	89.9	89.9	89.3	89.6	88.9
78	Road vehicles	101.9	101.9	102.0	102.0	102.0	102.2	102.2	102.1	102.1	102.3	102.2	102.2	102.3
87	**Professional, scientific, and controlling instruments and apparatus**	103.8	103.8	103.9	103.8	103.8	103.9	104.0	104.1	104.8	104.8	105.0	105.2	105.4

35. U.S. import price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1998								1999				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
0	**Food and live animals**	97.5	98.0	97.4	93.9	95.5	97.0	95.8	95.2	96.3	93.2	93.2	94.4	94.6
01	Meat and meat preparations	101.3	98.3	97.7	97.8	97.2	95.5	94.8	91.8	91.9	92.2	94.0	94.5	93.7
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	107.2	109.4	106.1	103.9	103.7	104.2	102.3	100.1	100.9	102.7	103.3	106.0	106.0
05	Vegetables, fruit, and nuts, prepared fresh or dry	99.0	103.5	111.7	98.1	106.7	114.1	109.6	110.6	112.8	102.1	101.7	104.6	106.5
07	Coffee, tea, cocoa, spices, and manufactures thereof	86.1	82.1	73.6	79.4	77.4	73.9	74.6	75.0	76.2	72.3	71.0	69.5	68.7
1	**Beverages and tobacco**	109.3	109.6	109.8	109.7	109.7	109.9	109.7	109.9	110.4	110.0	110.4	110.6	110.4
11	Beverages	105.9	106.3	106.5	106.3	106.4	106.6	106.4	106.6	106.7	106.7	106.9	107.2	107.2
2	**Crude materials, inedible, except fuels**	89.3	87.7	87.3	85.7	85.7	84.0	83.1	84.1	84.3	87.4	86.3	86.1	88.5
23	Crude rubber (including synthetic and reclaimed)	57.7	58.8	54.9	53.8	53.8	54.8	54.6	51.0	–	–	–	–	–
24	Cork and wood	106.6	101.2	105.5	106.6	107.3	102.5	102.8	106.9	108.6	113.7	113.2	113.6	118.3
25	Pulp and waste paper	62.9	66.1	64.6	62.5	60.8	59.1	58.0	57.8	57.2	57.9	57.6	57.3	58.1
28	Metalliferous ores and metal scrap	100.8	98.6	96.0	94.2	92.9	93.2	92.8	92.8	90.9	90.4	89.9	89.5	91.1
29	Crude animal and vegetable materials, n.e.s.	116.0	113.1	113.4	100.9	105.2	103.8	96.9	99.4	103.4	120.7	109.4	108.6	107.8
3	**Mineral fuels, lubricants, and related products**	80.9	77.6	74.3	73.4	77.5	78.9	72.7	64.6	67.5	66.6	73.2	86.4	93.5
33	Petroleum, petroleum products, and related materials	76.9	73.4	69.5	69.3	74.0	75.7	68.1	58.7	61.7	61.3	70.2	85.0	91.7
34	Gas, natural and manufactured	114.3	111.9	112.6	106.8	106.4	105.8	110.0	110.7	113.5	107.3	97.4	99.3	111.7
5	**Chemicals and related products, n.e.s.**	93.6	93.6	92.9	92.1	91.8	91.8	92.3	91.1	91.4	91.1	90.8	90.6	90.6
52	Inorganic chemicals	97.2	97.8	96.1	94.6	93.9	94.5	94.9	90.9	90.1	88.7	88.6	86.9	86.8
53	Dying, tanning, and coloring materials	94.8	94.9	94.6	94.8	94.8	96.0	97.3	96.5	94.7	94.0	94.3	92.6	91.7
54	Medicinal and pharmaceutical products	95.4	95.3	95.0	94.9	94.6	94.7	95.9	95.7	97.0	97.4	96.7	96.1	95.6
55	Essential oils; polishing and cleaning preparations	94.6	94.8	94.3	93.4	93.8	95.0	95.3	95.2	94.6	94.3	93.5	93.1	92.7
57	Plastics in primary forms (12/92 = 100)	94.1	94.0	93.1	91.2	91.6	90.8	91.5	91.3	91.8	92.2	92.0	92.5	93.3
58	Plastics in nonprimary forms (12/92 = 100)	80.0	79.1	77.1	75.5	74.1	74.0	74.1	73.7	73.5	73.0	73.1	72.7	73.2
59	Chemical materials and products, n.e.s.	101.8	101.4	100.4	100.3	100.6	99.2	99.2	99.4	98.8	98.1	97.9	98.5	98.0
6	**Manufactured goods classified chiefly by materials**	94.7	94.0	93.2	93.1	92.7	92.7	92.5	91.7	91.6	91.8	91.8	91.7	91.8
62	Rubber manufactures, n.e.s.	94.7	95.0	94.7	94.2	94.3	94.3	94.7	94.4	94.6	94.7	94.5	94.2	94.7
64	Paper, paperboard, and articles of paper, pulp, and paperboard	87.6	87.5	87.4	86.9	87.0	87.4	87.5	86.1	85.6	85.7	85.8	85.1	85.2
66	Nonmetallic mineral manufactures, n.e.s.	100.7	100.6	100.2	100.4	100.1	100.5	100.7	100.6	100.7	100.9	101.3	100.9	100.8
68	Nonferrous metals	94.2	90.9	88.0	87.9	86.3	85.9	83.8	83.0	82.9	84.4	85.9	85.7	85.8
69	Manufactures of metals, n.e.s.	96.3	96.5	96.2	96.2	96.6	96.8	97.3	96.6	97.1	96.8	95.9	95.9	96.4
7	**Machinery and transport equipment**	92.2	91.8	91.4	91.2	90.9	91.0	91.2	91.2	91.2	91.3	90.9	90.6	90.6
72	Machinery specialized for particular industries	97.6	97.6	97.3	97.1	96.7	97.8	98.7	98.4	98.5	98.8	98.3	98.1	97.8
74	General industrial machines and parts, n.e.s., and machine parts	96.4	96.7	96.3	96.5	96.6	97.8	98.7	98.4	98.6	99.1	98.4	97.9	97.7
75	Computer equipment and office machines	70.9	70.4	69.8	69.3	68.7	67.2	66.6	66.7	66.6	65.9	64.4	63.7	63.6
76	Telecommunications and sound recording and reproducing apparatus and equipment	90.6	89.4	88.9	89.0	88.9	88.4	88.5	88.3	88.3	88.5	88.4	87.9	87.8
77	Electrical machinery and equipment	85.4	84.5	83.8	83.8	83.2	83.8	84.0	84.1	83.7	84.1	83.8	83.5	83.3
78	Road vehicles	101.2	101.1	101.0	100.8	100.7	101.0	101.4	101.5	101.9	102.0	101.9	102.0	102.3
85	Footwear	100.6	100.7	100.8	100.9	100.9	101.3	101.1	100.9	101.3	101.4	101.1	101.2	100.5
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	91.2	91.0	90.9	90.6	90.1	90.7	91.3	91.1	91.9	92.1	91.8	91.4	91.4

– Data not avaliable.

36. U.S. export price indexes by end-use category

[1995 = 100]

Category	1998								1999				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
ALL COMMODITIES	96.6	96.1	95.8	95.3	94.8	94.7	94.9	94.8	94.8	94.6	94.2	94.4	94.5
Foods, feeds, and beverages	93.8	93.2	94.4	90.9	88.1	88.6	90.6	91.2	91.5	89.4	87.3	88.2	89.0
Agricultural foods, feeds, and beverages	94.7	94.1	94.8	90.5	87.6	88.0	90.3	91.0	91.1	88.7	85.9	86.4	86.8
Nonagricultural (fish, beverages) food products	85.6	84.7	91.5	97.0	94.9	96.1	95.8	94.9	97.5	98.7	103.5	108.5	114.2
Industrial supplies and materials	90.9	90.4	89.3	88.9	88.0	87.4	87.4	87.1	86.8	86.8	86.5	86.8	87.3
Agricultural industrial supplies and materials	87.5	90.3	88.9	87.6	86.0	84.6	82.9	82.7	82.4	81.9	79.9	79.6	79.5
Fuels and lubricants	102.2	100.8	95.7	94.0	92.9	94.2	93.9	92.8	92.8	92.7	92.4	97.8	98.6
Nonagricultural supplies and materials, excluding fuel and building materials	89.4	88.7	87.9	87.7	86.8	86.1	86.2	86.0	85.7	85.7	85.5	85.3	85.8
Selected building materials	86.6	86.0	86.2	87.0	86.8	86.8	86.5	86.1	86.3	86.8	87.3	87.5	87.6
Capital goods	98.2	97.7	97.4	97.2	97.2	97.2	97.0	97.1	97.1	97.1	96.9	97.0	96.7
Electric and electrical generating equipment	100.8	100.5	100.5	100.2	100.1	100.0	99.7	99.5	99.1	99.1	99.1	99.1	98.9
Nonelectrical machinery	95.2	94.5	94.1	93.9	93.9	93.9	93.7	93.7	93.6	93.6	93.4	93.5	93.1
Automotive vehicles, parts, and engines	102.3	102.3	102.4	102.4	102.4	102.8	102.9	102.8	102.9	103.1	103.0	102.9	103.0
Consumer goods, excluding automotive	102.3	101.9	101.9	101.9	102.0	102.1	102.1	101.8	101.9	101.9	101.8	101.9	101.8
Nondurables, manufactured	102.2	102.0	102.0	101.8	102.0	102.2	102.2	101.8	102.1	102.3	102.1	102.0	102.0
Durables, manufactured	101.3	100.7	100.5	100.9	100.9	100.9	100.8	100.7	100.6	100.3	100.3	100.5	100.3
Agricultural commodities	93.1	93.1	93.4	89.6	87.0	87.1	88.6	89.2	89.2	87.1	84.5	84.9	85.2
Nonagricultural commodities	96.9	96.4	96.0	95.9	95.7	95.6	95.6	95.4	95.4	95.5	95.3	95.5	95.6

37. U.S. import price indexes by end-use category

[1995 = 100]

Category	1998								1999				
	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
ALL COMMODITIES	93.2	92.6	91.8	91.4	91.6	91.8	91.3	90.4	90.8	90.7	90.9	91.9	92.6
Foods, feeds, and beverages	96.4	97.1	96.3	94.0	95.4	96.4	95.1	95.1	95.9	93.3	93.0	93.9	94.6
Agricultural foods, feeds, and beverages	92.7	92.8	92.6	89.8	91.7	93.0	91.8	92.3	93.3	89.2	88.7	89.1	90.1
Nonagricultural (fish, beverages) food products	105.8	108.3	105.9	104.9	104.8	105.2	103.8	102.1	102.6	103.8	104.4	106.5	106.5
Industrial supplies and materials	89.9	88.2	86.4	85.8	86.8	87.0	84.9	81.8	82.6	82.5	84.8	89.0	91.6
Fuels and lubricants	81.7	78.5	75.1	74.2	78.2	79.7	73.5	65.5	68.1	67.2	73.9	86.8	93.8
Petroleum and petroleum products	77.6	74.2	70.2	69.8	74.3	76.0	68.6	59.5	62.0	61.7	70.3	84.7	91.3
Paper and paper base stocks	80.9	81.7	81.2	80.2	80.0	80.2	80.0	78.8	78.3	78.6	78.4	77.5	77.7
Materials associated with nondurable supplies and materials	91.3	91.1	89.8	88.8	88.5	88.6	89.1	87.9	87.5	87.3	87.5	87.3	87.3
Selected building materials	102.5	99.7	102.8	104.2	104.4	101.0	101.6	102.8	104.2	107.6	107.9	108.3	110.5
Unfinished metals associated with durable goods	95.4	92.9	90.6	90.1	88.9	88.6	87.4	86.8	86.6	86.6	86.9	86.7	87.3
Nonmetals associated with durable goods	91.3	91.5	90.2	89.7	88.9	88.5	88.6	88.5	88.8	88.6	88.2	87.3	87.3
Capital goods	86.2	85.6	85.0	84.9	84.5	84.5	84.5	84.5	84.5	84.5	83.7	83.3	83.0
Electric and electrical generating equipment	94.7	94.8	94.1	94.1	92.6	92.9	93.5	93.7	93.5	93.6	92.8	92.5	92.3
Nonelectrical machinery	83.4	82.7	82.0	81.9	81.6	81.5	81.5	81.5	81.5	81.5	80.7	80.2	79.9
Automotive vehicles, parts, and engines	101.1	101.0	100.9	100.7	100.6	100 8	101.2	101.3	101.4	101.5	101.4	101.5	101.8
Consumer goods, excluding automotive	98.3	98.2	98.1	97.9	97.8	98.1	98.3	97.9	98.1	98.4	98.0	97.8	97.7
Nondurables, manufactured	100.7	100.9	100.8	100.8	100.8	101.1	101.2	100.8	101.0	101.1	101.0	101.0	100.6
Durables, manufactured	95.8	95.3	95.1	94.9	94.7	95.0	95.3	95.0	95.2	95.2	94.8	94.4	94.5
Nonmanufactured consumer goods	99.3	98.7	98.7	97.1	97.6	97.7	96.7	97.1	97.7	100.9	99.0	98.9	98.8

38. U.S. international price indexes for selected categories of services

[1990 = 100, unless otherwise indicated]

Category	1997		1998				1999	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Air freight (inbound) (9/90 = 100)	88.5	86.5	82.9	83.4	81.8	87.4	88.0	86.2
Air freight (outbound) (9/92 = 100)	99.6	97.7	97.2	96.0	95.8	95.2	92.7	92.9
Air passenger fares (U.S. carriers)	109.2	99.5	99.3	107.8	107.3	103.1	104.5	112.3
Air passenger fares (foreign carriers)	104.6	99.7	97.6	102.4	104.0	101.1	98.9	106.3
Ocean liner freight (inbound)	94.9	92.9	93.0	103.2	105.0	104.2	102.6	133.9

39. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	Quarterly indexes												
	1996				1997				1998				1999
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
Business													
Output per hour of all persons	103.0	103.8	103.8	104.2	104.4	104.8	105.8	106.0	107.1	107.1	107.8	109.0	110.1
Compensation per hour	108.9	110.4	111.4	112.3	113.2	113.9	115.0	116.5	117.9	119.1	120.2	121.5	123.0
Real compensation per hour	98.5	98.9	99.3	99.2	99.5	99.8	100.3	101.1	102.1	102.7	103.2	103.9	104.8
Unit labor costs	105.7	106.3	107.3	107.8	108.5	108.7	108.8	109.9	110.2	111.2	111.5	111.5	111.7
Unit nonlabor payments	111.9	112.1	111.5	111.8	112.4	113.2	113.8	112.4	112.2	110.5	110.4	110.7	110.8
Implicit price deflator	107.9	108.4	108.8	109.2	109.9	110.3	110.6	110.8	110.9	111.0	111.1	111.2	111.4
Nonfarm business													
Output per hour of all persons	103.1	103.8	103.8	104.0	104.1	104.5	105.4	105.6	106.6	106.6	107.3	108.5	109.4
Compensation per hour	108.7	110.1	111.0	111.9	112.9	113.6	114.6	116.0	117.4	118.5	119.7	120.9	122.1
Real compensation per hour	98.3	98.7	99.0	98.9	99.2	99.5	99.9	100.7	101.6	102.1	102.7	103.3	104.0
Unit labor costs	105.4	106.0	107.0	107.5	108.5	108.7	108.8	109.8	110.1	111.1	111.5	111.4	111.6
Unit nonlabor payments	112.3	112.3	111.6	112.2	112.9	113.7	114.6	113.3	113.2	111.6	111.4	111.7	112.3
Implicit price deflator	107.9	108.2	108.6	109.2	110.0	110.4	110.8	111.1	111.2	111.3	111.5	111.5	111.9
Nonfinancial corporations													
Output per hour of all employees	106.4	107.3	108.0	108.6	108.9	109.6	111.1	111.3	112.1	112.9	114.1	115.1	116.2
Compensation per hour	107.7	109.0	110.1	110.8	111.8	112.5	113.6	115.0	116.0	117.3	118.5	119.7	121.1
Real compensation per hour	97.4	97.7	98.1	98.0	98.2	98.5	99.0	99.8	100.4	101.1	101.7	102.3	103.1
Total unit costs	100.6	100.7	100.8	100.9	101.2	101.2	100.7	101.3	101.4	101.7	101.6	102.0	101.8
Unit labor costs	101.2	101.7	101.9	102.1	102.6	102.6	102.3	103.3	103.5	103.9	103.8	104.1	104.2
Unit nonlabor costs	98.7	97.9	97.5	97.4	97.3	97.1	96.4	95.7	95.4	95.5	95.2	96.2	94.2
Unit profits	153.7	154.1	155.3	155.4	156.6	157.3	161.7	155.7	153.5	150.4	151.8	146.6	149.4
Unit nonlabor payments	113.9	113.5	113.5	113.5	113.7	113.8	114.5	112.3	111.5	110.7	110.9	110.1	110.0
Implicit price deflator	105.4	105.5	105.7	105.8	106.2	106.3	106.3	106.3	106.2	106.1	106.1	106.0	106.1
Manufacturing													
Output per hour of all persons	111.9	113.2	114.7	115.5	116.7	118.1	120.7	121.9	122.4	123.6	125.0	126.7	128.6
Compensation per hour	109.2	110.3	111.2	111.9	113.1	114.2	115.7	118.0	119.2	119.9	120.9	121.8	123.4
Real compensation per hour	98.8	98.9	99.1	98.9	99.4	100.0	100.9	102.4	103.2	103.3	103.7	104.1	105.0
Unit labor costs	97.6	97.5	97.0	96.9	97.0	96.7	95.9	96.8	97.3	97.0	96.7	96.2	95.9

– Data not available.

40. Annual indexes of multifactor productivity and related measures, selected years

[1992 = 100]

Item	1960	1970	1980	1989	1990	1991	1993	1994	1995	1996	1997
Private business											
Productivity:											
Output per hour of all persons	50.8	70.1	83.8	95.5	96.1	96.7	100.1	100.6	101.0	103.7	105.2
Output per unit of capital services	117.3	117.1	107.3	103.8	102.1	98.6	100.7	102.3	101.9	102.3	102.6
Multifactor productivity	70.7	86.5	95.3	100.0	99.6	98.1	100.1	100.6	100.7	102.4	103.1
Output	34.0	51.6	72.6	97.8	98.6	96.9	102.7	107.0	110.0	114.7	120.1
Inputs:											
Labor input	60.6	68.3	80.5	99.6	100.2	99.0	102.9	107.1	109.8	112.0	116.2
Capital services	29.0	44.1	67.7	94.2	96.5	98.3	102.0	104.6	108.0	112.2	117.1
Combined units of labor and capital input	48.1	59.7	76.2	97.8	99.0	98.7	102.6	106.3	109.3	112.1	116.5
Capital per hour of all persons	43.3	59.9	78.1	92.0	94.1	98.1	99.4	98.3	99.2	101.4	102.6
Private nonfarm business											
Productivity:											
Output per hour of all persons	54.3	72.2	85.6	95.9	96.3	96.9	100.1	100.6	101.2	103.7	104.9
Output per unit of capital services	126.1	124.1	111.4	104.6	102.6	98.8	100.8	102.1	101.8	102.1	102.1
Multifactor productivity	74.9	89.4	97.6	100.5	99.8	98.4	100.1	100.5	100.8	102.3	102.7
Output	33.7	51.8	73.1	98.1	98.8	97.0	103.0	107.1	110.4	115.0	120.2
Inputs:											
Labor input	56.4	66.6	79.3	99.5	100.2	98.8	103.1	107.2	109.9	112.3	116.6
Capital services	26.7	41.8	65.6	93.9	96.3	98.2	102.2	104.8	108.4	112.6	117.7
Combined units of labor and capital input	45.0	58.0	74.9	97.7	99.0	98.6	102.9	106.5	109.5	112.4	117.0
Capital per hour of all persons	43.0	58.2	76.8	91.7	93.8	98.1	99.3	98.5	99.4	101.6	102.8
Manufacturing											
Productivity:											
Output per hour of all persons	42.1	54.5	70.4	90.7	93.0	95.1	102.2	105.3	109.4	113.8	–
Output per unit of capital services	125.6	116.3	101.5	103.5	101.3	97.3	101.8	105.2	106.8	107.0	–
Multifactor productivity	72.9	84.2	87.3	100.4	99.8	98.6	101.2	104.4	108.4	110.7	–
Output	38.7	56.8	75.7	97.1	97.5	95.5	103.6	109.1	113.8	118.0	–
Inputs:											
Hours of all persons	92.0	104.2	107.5	107.1	104.8	100.4	101.4	103.6	104.0	103.7	–
Capital services	30.9	48.8	74.6	93.8	96.3	98.2	101.7	103.6	106.6	110.3	–
Energy	51.5	85.4	92.5	96.8	99.9	100.1	103.7	107.3	109.5	107.0	–
Nonenergy materials	39.1	46.0	74.5	88.3	91.3	93.1	103.0	104.4	101.4	105.4	–
Purchased business services	27.3	47.4	71.9	88.9	91.8	91.9	104.3	107.8	111.0	111.6	–
Combined units of all factor inputs	53.1	67.4	86.7	96.7	97.7	96.9	102.3	104.5	105.0	106.6	–

– Data not available.

41. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998
Business													
Output per hour of all persons	51.4	70.6	84.2	94.7	95.5	96.1	96.7	100.1	100.7	101.0	103.7	105.2	107.7
Compensation per hour	13.7	23.6	54.5	83.6	85.9	90.8	95.1	102.5	104.4	106.8	110.7	114.7	119.7
Real compensation per hour	64.7	85.4	92.8	99.1	97.2	97.4	98.0	99.5	98.8	98.4	99.0	100.3	103.0
Unit labor costs	26.6	33.5	64.7	88.3	90.0	94.4	98.3	102.4	103.7	105.8	106.8	109.0	111.1
Unit nonlabor payments	24.6	30.6	59.6	84.1	91.3	93.5	96.6	102.7	106.8	108.8	111.8	112.9	110.9
Implicit price deflator	25.8	32.4	62.8	86.8	90.4	94.1	97.7	102.5	104.8	106.9	108.6	110.4	111.0
Nonfarm business													
Output per hour of all persons	54.8	72.7	86.0	95.3	95.8	96.3	97.0	100.1	100.6	101.2	103.7	104.9	107.2
Compensation per hour	14.3	23.8	54.8	83.7	86.0	90.7	95.1	102.2	104.2	106.7	110.4	114.3	119.1
Real compensation per hour	67.8	86.1	93.4	99.3	97.3	97.3	98.0	99.3	98.7	98.2	98.7	99.9	102.5
Unit labor costs	26.1	32.8	63.8	87.8	89.7	94.2	98.1	102.2	103.6	105.4	106.5	108.9	111.1
Unit nonlabor payments	24.0	30.3	58.6	83.8	90.7	93.1	96.8	103.1	107.3	109.9	112.1	113.6	112.0
Implicit price deflator	25.3	31.9	61.9	86.4	90.0	93.8	97.6	102.5	104.9	107.0	108.5	110.6	111.4
Nonfinancial corporations													
Output per hour of all employees	54.5	69.1	80.4	96.9	95.5	96.1	97.6	101.1	103.5	104.7	107.6	110.3	113.6
Compensation per hour	15.6	25.4	56.7	84.9	87.1	91.5	95.7	102.0	104.1	106.2	109.5	113.3	118.0
Real compensation per hour	73.9	91.7	96.5	100.7	98.5	98.2	98.5	99.1	98.5	97.8	97.9	99.0	101.6
Total unit costs	27.8	36.1	70.2	88.2	92.5	96.2	99.3	100.5	100.3	100.8	100.7	101.1	101.7
Unit labor costs	28.6	36.7	70.5	87.7	91.1	95.2	98.0	100.9	100.6	101.4	101.7	102.7	103.8
Unit nonlabor costs	25.3	34.3	69.2	89.7	96.3	99.1	103.0	99.4	99.7	99.0	97.9	96.6	95.6
Unit profits	47.7	42.0	64.4	103.8	96.0	94.6	93.9	113.3	134.5	143.6	154.6	157.8	150.5
Unit nonlabor payments	31.5	36.4	67.9	93.6	96.2	97.9	100.5	103.2	109.4	111.4	113.6	113.6	110.8
Implicit price deflator	29.6	36.6	69.7	89.6	92.8	96.1	98.8	101.7	103.4	104.7	105.6	106.3	106.1
Manufacturing													
Output per hour of all persons	42.1	54.4	70.4	90.5	90.7	93.0	95.1	102.2	105.3	109.4	113.8	119.4	124.4
Compensation per hour	14.9	23.8	55.8	84.2	86.9	91.0	95.8	102.9	105.8	108.3	110.7	115.3	120.4
Real compensation per hour	70.7	86.2	95.0	99.9	98.3	97.7	98.7	99.9	100.1	99.7	99.0	100.8	103.7
Unit labor costs	35.5	43.8	79.3	93.0	95.8	97.9	100.7	100.7	100.5	99.0	97.2	96.6	96.8
Unit nonlabor payments	26.7	29.3	79.7	90.3	95.1	99.4	98.8	101.0	102.8	106.9	109.5	–	–
Implicit price deflator	30.1	34.9	79.5	91.4	95.3	98.8	99.5	100.9	101.9	103.9	104.7	–	–

– Data not available.

42. Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	19
Mining											
Copper ores	102	109.2	106.6	102.7	100.5	115.2	118.1	126.0	117.2	116.5	1
Gold and silver ores	104	101.5	113.3	122.3	127.4	141.6	159.8	160.8	144.2	138.3	1
Bituminous coal and lignite mining	122	111.7	117.3	118.7	122.4	133.0	141.2	148.1	155.9	168.0	1
Crude petroleum and natural gas	131	101.0	98.0	97.0	97.9	102.1	105.9	112.4	119.4	123.7	1
Crushed and broken stone	142	101.3	98.7	102.2	99.8	105.0	103.6	108.7	105.4	107.2	1
Manufacturing											
Meat products	201	100.1	99.3	97.1	99.7	104.6	104.3	101.2	102.4	97.7	
Dairy products	202	108.4	107.8	107.3	108.4	111.5	109.7	111.9	116.6	115.9	
Preserved fruits and vegetables	203	97.0	97.8	95.6	99.2	100.6	106.8	107.6	109.1	109.4	
Grain mill products	204	101.3	107.6	105.3	104.9	107.7	109.1	108.4	115.3	107.7	
Bakery products	205	96.8	96.1	92.7	90.6	93.8	94.4	96.4	97.3	95.4	
Sugar and confectionery products	206	99.4	101.5	102.8	101.3	99.1	103.9	105.4	107.5	112.7	
Fats and oils	207	108.9	116.4	118.1	120.1	114.1	112.6	111.8	120.3	111.1	
Beverages	208	106.0	112.7	117.7	120.5	127.6	127.0	130.9	134.3	135.7	
Miscellaneous food and kindred products	209	107.0	99.3	99.3	101.6	101.6	105.3	101.0	103.1	107.6	
Cigarettes	211	101.2	109.0	113.2	107.6	111.6	106.5	126.6	142.9	147.7	
Broadwoven fabric mills, cotton	221	99.6	99.8	103.1	111.2	110.3	117.8	122.1	134.0	137.8	
Broadwoven fabric mills, manmade	222	99.2	106.3	111.3	116.2	126.2	131.7	142.5	145.2	151.1	
Narrow fabric mills	224	108.4	92.7	96.5	99.6	112.9	111.4	120.1	118.9	127.5	
Knitting mills	225	96.3	108.0	107.5	114.1	119.5	128.1	134.3	138.6	150.8	
Textile finishing, except wool	226	90.3	88.7	83.4	79.9	78.6	79.3	81.2	78.5	79.8	
Carpets and rugs	227	98.6	97.8	93.2	89.2	96.1	97.1	93.3	95.8	101.2	
Yarn and thread mills	228	102.1	104.2	110.2	111.4	119.6	126.6	130.7	137.4	146.6	
Miscellaneous textile goods	229	101.6	109.1	109.2	104.6	106.5	110.4	118.5	123.7	125.4	
Men's and boys' suits and coats	231	105.1	97.7	93.9	90.2	89.0	97.4	97.7	92.5	96.5	
Men's and boys' furnishings	232	100.1	100.1	102.1	108.4	109.1	108.4	111.7	123.4	134.0	
Women's and misses' outerwear	233	101.4	96.8	104.1	104.3	109.4	121.8	127.4	135.5	144.2	
Women's and children's undergarments	234	105.4	94.6	102.1	113.6	117.4	124.5	138.0	161.3	171.6	
Hats, caps, and millinery	235	99.0	96.4	89.2	91.1	93.6	87.2	77.7	84.3	80.9	
Miscellaneous apparel and accessories	238	101.3	88.4	90.6	91.8	91.3	94.0	105.5	116.8	121.3	
Miscellaneous fabricated textile products	239	96.6	95.7	99.9	100.7	107.5	108.5	107.8	109.2	106.3	
Logging	241	93.7	89.4	86.3	86.0	96.2	88.6	87.8	86.0	86.0	
Sawmills and planing mills	242	100.7	99.6	99.8	102.6	108.1	101.9	103.3	110.2	114.9	
Millwork, plywood, and structural members	243	98.9	97.1	98.0	98.0	99.9	97.0	94.5	92.7	92.2	
Wood containers	244	103.1	108.8	111.2	113.1	109.4	100.1	100.9	106.1	106.5	
Wood buildings and mobile homes	245	97.8	98.8	103.1	103.0	103.1	103.8	98.3	97.0	97.0	
Miscellaneous wood products	249	95.9	102.4	107.7	110.5	114.2	115.3	111.8	115.4	114.2	
Household furniture	251	99.4	102.0	104.5	107.1	110.5	110.6	112.5	116.9	122.2	
Office furniture	252	94.3	97.5	95.0	94.1	102.5	103.2	100.5	101.1	106.8	
Public building and related furniture	253	109.6	113.7	119.8	120.2	140.6	161.0	157.4	173.3	179.9	
Partitions and fixtures	254	95.7	92.4	95.6	93.0	102.7	107.4	98.9	101.2	97.3	
Miscellaneous furniture and fixtures	259	103.6	101.9	103.5	102.1	99.5	103.6	104.7	110.0	113.6	
Pulp mills	261	99.6	107.4	116.7	128.3	137.3	122.5	128.9	131.9	132.7	
Paper mills	262	103.9	103.6	102.3	99.2	103.3	102.4	110.2	119.0	111.9	
Paperboard mills	263	105.5	101.9	100.6	101.4	104.4	108.4	114.9	119.5	118.7	
Paperboard containers and boxes	265	99.7	101.5	101.3	103.4	105.2	107.9	108.4	105.1	106.5	
Miscellaneous converted paper products	267	101.1	101.6	101.4	105.4	105.5	108.0	110.8	113.4	114.6	
Newspapers	271	96.9	95.2	90.6	85.8	81.5	79.4	79.9	79.0	77.1	
Periodicals	272	97.9	98.3	93.9	89.5	92.9	89.6	82.4	88.5	90.9	
Books	273	99.1	94.1	96.6	100.8	97.7	103.5	103.0	101.5	100.5	
Miscellaneous publishing	274	96.7	89.0	92.2	95.9	105.8	104.5	97.5	94.8	93.4	
Commercial printing	275	100.0	101.1	102.5	102.0	108.0	106.9	106.5	107.2	108.7	
Manifold business forms	276	98.7	89.7	93.0	89.1	94.5	91.1	82.0	76.9	74.5	
Greeting cards	277	100.1	109.1	100.6	92.7	96.7	91.4	89.0	92.5	91.8	
Blankbooks and bookbinding	278	95.6	94.2	99.4	96.1	103.6	98.7	105.4	108.7	115.0	
Printing trade services	279	99.9	94.3	99.3	100.6	112.0	115.3	111.0	116.7	126.7	
Industrial inorganic chemicals	281	105.7	104.2	106.7	109.6	109.6	105.4	102.0	109.2	110.4	
Plastics materials and synthetics	282	98.8	99.7	100.9	100.0	107.5	111.9	125.0	128.7	125.1	
Drugs	283	101.1	102.9	103.9	104.7	99.6	100.0	105.5	108.9	112.9	
Soaps, cleaners, and toilet goods	284	102.0	100.7	103.8	105.3	104.4	108.7	111.2	118.6	121.4	
Paints and allied products	285	101.4	103.3	106.3	104.3	102.9	108.8	116.7	118.0	124.2	
Industrial organic chemicals	286	109.8	110.3	101.4	95.8	94.5	92.2	100.0	98.8	98.4	
Agricultural chemicals	287	103.8	104.5	105.0	99.9	99.9	104.3	105.7	109.0	111.4	
Miscellaneous chemical products	289	95.4	95.2	97.3	96.1	101.8	107.1	105.7	107.8	110.2	
Petroleum refining	291	105.3	109.6	109.2	106.6	111.3	120.1	123.8	132.3	142.0	
Asphalt paving and roofing materials	295	98.3	95.3	98.0	94.1	100.4	108.0	104.9	111.2	114.4	
Miscellaneous petroleum and coal products	299	98.4	101.9	94.8	90.6	101.5	104.2	96.3	87.4	86.4	

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Tires and inner tubes	301	102.9	103.8	103.0	102.4	107.8	116.5	124.1	131.1	138.8	–
Hose and belting and gaskets and packing	305	103.7	96.3	96.1	92.4	97.8	99.7	102.7	104.6	107.2	–
Fabricated rubber products, n.e.c.	306	104.3	105.5	109.2	110.1	115.3	123.2	119.2	121.6	120.3	–
Miscellaneous plastics products, n.e.c.	308	100.5	101.7	105.6	108.1	114.1	116.4	120.4	120.7	124.9	–
Footwear, except rubber	314	101.3	101.1	101.1	94.4	104.2	105.2	113.0	117.1	125.8	–
Luggage	316	93.7	104.8	106.2	100.3	90.7	89.5	92.3	90.5	108.5	–
Handbags and personal leather goods	317	98.5	93.1	96.5	98.7	111.2	97.8	86.8	81.8	83.9	–
Flat glass	321	91.9	90.7	84.5	83.6	92.7	97.7	97.6	99.6	104.2	–
Glass and glassware, pressed or blown	322	100.6	100.2	104.8	102.3	108.9	108.7	112.9	115.7	121.9	–
Products of purchased glass	323	95.9	90.1	92.6	97.7	101.5	106.2	105.9	106.1	124.5	–
Cement, hydraulic	324	103.2	110.2	112.4	108.3	115.1	119.9	125.6	124.3	127.9	–
Structural clay products	325	98.8	103.1	109.6	109.8	111.5	105.8	113.0	111.6	119.5	–
Pottery and related products	326	99.6	97.1	98.6	95.8	99.5	100.3	108.4	109.3	119.4	–
Concrete, gypsum, and plaster products	327	100.8	102.4	102.3	101.2	102.5	104.6	101.5	104.5	107.5	–
Miscellaneous nonmetallic mineral products	329	103.0	95.5	95.4	94.0	104.3	104.5	106.3	107.8	111.3	–
Blast furnace and basic steel products	331	112.6	108.0	109.6	107.8	117.1	133.5	142.4	142.7	153.6	–
Iron and steel foundries	332	104.0	105.4	106.1	104.5	107.2	112.1	113.0	112.7	115.7	–
Primary nonferrous metals	333	107.8	106.1	102.3	110.9	102.0	108.0	105.4	111.1	111.0	–
Nonferrous rolling and drawing	335	95.5	93.6	92.7	90.9	95.8	98.2	101.1	99.1	103.9	–
Nonferrous foundries (castings)	336	102.6	105.1	104.0	103.6	103.6	108.5	112.1	117.8	122.6	–
Miscellaneous primary metal products	339	106.6	105.0	113.7	109.1	114.5	111.3	134.5	152.2	149.6	–
Metal cans and shipping containers	341	106.5	108.5	117.6	122.9	127.8	132.3	140.9	144.2	155.2	–
Cutlery, handtools, and hardware	342	97.8	101.7	97.3	96.8	100.1	104.0	109.2	111.3	117.9	–
Plumbing and heating, except electric	343	103.7	101.5	102.6	102.0	98.4	102.0	109.1	109.2	118.6	–
Fabricated structural metal products	344	100.4	96.9	98.8	100.0	103.9	104.8	107.7	105.8	106.7	–
Screw machine products, bolts, etc.	345	98.5	96.1	96.1	97.9	102.3	104.4	107.2	109.7	110.4	–
Metal forgings and stampings	346	101.5	99.8	95.6	92.9	103.7	108.7	108.5	109.3	113.7	–
Metal services, n.e.c.	347	108.3	102.4	104.7	99.4	111.6	120.6	123.0	127.7	127.5	–
Ordnance and accessories, n.e.c.	348	97.7	89.8	82.1	81.5	88.6	84.6	83.6	87.6	87.4	–
Miscellaneous fabricated metal products	349	101.4	95.9	97.5	97.3	100.9	101.8	103.0	106.4	108.6	–
Engines and turbines	351	106.8	110.7	106.5	105.8	103.3	109.2	122.3	122.7	136.9	–
Farm and garden machinery	352	106.3	110.7	116.5	112.9	113.9	118.6	125.0	134.7	136.6	–
Construction and related machinery	353	106.5	108.3	107.0	99.1	102.0	108.2	117.7	122.1	123.8	–
Metalworking machinery	354	101.0	103.5	101.1	96.4	104.3	107.4	109.9	114.8	114.7	–
Special industry machinery	355	104.6	108.3	107.5	108.3	106.0	113.6	121.2	132.3	134.7	–
General industrial machinery	356	106.0	101.6	101.5	101.6	101.6	104.8	106.7	109.0	110.0	–
Refrigeration and service machinery	358	102.1	106.0	103.6	100.7	104.9	108.6	110.7	112.7	114.4	–
Industrial machinery, n.e.c.	359	106.5	107.1	107.3	109.0	116.9	118.4	127.3	138.8	142.1	–
Electric distribution equipment	361	105.4	105.0	106.3	106.5	119.6	122.2	131.8	143.0	145.1	–
Electrical industrial apparatus	362	104.5	107.3	107.5	106.8	116.8	132.5	134.5	150.4	154.1	–
Household appliances	363	103.0	104.7	105.8	106.5	115.0	123.4	131.4	127.3	126.7	–
Electric lighting and wiring equipment	364	101.9	100.2	99.9	97.5	105.7	107.8	113.4	113.7	117.4	–
Communications equipment	366	110.4	107.0	120.9	123.8	145.4	149.0	164.8	169.6	189.6	–
Miscellaneous electrical equipment & supplies	369	102.8	99.6	90.6	98.6	101.3	108.2	110.5	114.1	123.0	–
Motor vehicles and equipment	371	103.2	103.3	102.4	96.6	104.2	105.3	107.1	104.1	104.1	–
Aircraft and parts	372	100.5	98.2	98.8	108.1	112.2	115.1	109.5	107.8	112.6	–
Ship and boat building and repairing	373	99.4	97.6	103.7	96.3	102.7	106.2	103.8	97.9	100.5	–
Railroad equipment	374	113.5	135.3	141.1	146.9	147.9	151.0	152.5	150.0	146.3	–
Motorcycles, bicycles, and parts	375	92.6	94.6	93.8	99.8	108.4	130.9	125.1	120.3	123.3	–
Guided missiles, space vehicles, parts	376	104.8	110.5	115.7	109.8	109.3	120.9	117.5	118.7	127.3	–
Search and navigation equipment	381	104.8	105.8	112.7	118.9	122.1	129.1	132.1	149.5	141.8	–
Measuring and controlling devices	382	103.1	101.3	106.1	112.9	119.9	124.0	133.8	146.4	150.4	–
Medical instruments and supplies	384	104.4	107.2	116.3	118.4	123.3	126.9	126.1	130.9	140.4	–
Ophthalmic goods	385	112.6	123.3	121.2	125.1	144.5	157.8	160.6	167.2	188.9	–
Photographic equipment & supplies	386	105.6	113.0	107.8	110.2	116.4	126.9	132.7	129.5	129.0	–
Jewelry, silverware, and plated ware	391	100.1	102.9	99.3	95.8	96.7	96.7	99.5	100.2	103.2	–
Musical instruments	393	101.8	96.1	97.1	96.9	96.0	95.6	88.7	86.9	78.9	–
Toys and sporting goods	394	104.8	106.0	108.1	109.7	104.9	114.2	109.7	113.6	120.0	–
Pens, pencils, office, and art supplies	395	108.6	113.3	118.7	117.3	111.7	112.0	130.2	135.4	144.4	–
Costume jewelry and notions	396	102.0	93.8	105.3	106.7	110.8	115.8	129.0	143.7	142.3	–
Miscellaneous manufactures	399	104.5	102.8	107.9	109.9	109.6	107.8	106.2	108.2	113.5	–
Transportation											
U.S. postal service[1]	431	99.9	99.7	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3
Air transportation [2]	4512,13,22 (pts.)	99.5	95.8	92.9	92.5	96.9	100.2	105.7	108.6	111.1	112.1
Communications and utilities											
Telephone communications	481	106.2	111.6	113.3	119.8	127.7	135.5	142.2	148.1	159.4	160.2
Radio and television broadcasting	483	103.1	106.2	104.9	106.1	108.3	106.7	110.1	109.6	105.9	101.3
Cable and other pay TV services	484	102.0	99.7	92.5	87.5	88.3	85.1	83.3	84.3	81.6	84.1
Electric utilities	491,3 (pt.)	104.9	107.7	110.1	113.4	115.2	120.6	126.8	135.0	146.5	150.5
Gas utilities	492,3 (pt.)	105.5	103.5	94.8	94.0	95.3	107.0	102.2	107.5	116.0	119.9

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Wholesale and retail trade											
Lumber and other building materials dealers	521	101.0	99.1	103.6	101.3	105.4	110.3	117.9	117.0	121.5	124.0
Paint, glass, and wallpaper stores	523	102.8	101.7	106.0	99.4	106.5	112.1	124.6	126.8	132.1	132.3
Hardware stores	525	108.6	115.2	110.5	102.5	107.2	106.5	114.2	110.7	115.2	115.8
Retail nurseries, lawn and garden supply stores	526	106.7	103.4	83.9	88.5	100.4	106.6	116.6	117.1	136.6	119.3
Department stores	531	99.2	97.0	94.2	98.2	100.9	108.1	111.2	113.4	121.0	125.7
Variety stores	533	101.9	124.4	151.2	154.2	167.7	185.5	191.8	205.8	232.6	246.1
Miscellaneous general merchandise stores	539	100.8	109.8	116.4	121.8	136.1	159.7	160.9	164.0	165.1	165.7
Grocery stores	541	98.9	95.4	94.6	93.7	93.3	93.0	92.9	91.9	90.2	89.1
Meat and fish (seafood) markets	542	99.0	97.6	96.8	88.4	95.8	95.8	95.3	95.5	88.8	90.8
Retail bakeries	546	89.8	83.3	89.7	94.7	94.0	88.0	90.1	91.2	87.3	97.6
New and used car dealers	551	103.4	102.5	106.1	104.1	106.5	107.6	108.7	107.1	108.2	107.3
Auto and home supply stores	553	103.2	101.6	102.7	99.0	100.0	100.9	107.0	112.6	113.9	109.7
Gasoline service stations	554	103.0	105.2	102.6	104.3	109.7	113.3	116.5	120.4	117.2	116.5
Men's and boys' wear stores	561	106.0	109.6	113.7	119.2	118.2	115.6	118.1	117.9	126.3	139.1
Women's clothing stores	562	97.8	99.5	101.5	103.0	112.2	116.8	115.8	122.8	133.6	134.1
Family clothing stores	565	102.0	104.9	104.5	106.4	111.7	114.9	121.2	135.2	140.5	143.2
Shoe stores	566	102.7	107.2	106.1	105.1	111.5	112.4	124.4	131.5	142.6	143.5
Miscellaneous apparel and accessory stores	569	96.3	95.2	88.6	78.8	89.1	95.2	105.4	131.2	139.9	128.0
Furniture and homefurnishings stores	571	98.6	100.9	101.8	101.5	108.4	108.5	110.5	114.7	122.5	125.7
Household appliance stores	572	98.5	103.5	102.8	105.2	113.9	115.0	116.8	131.6	132.0	149.4
Radio, television, computer, and music stores	573	118.6	114.6	119.6	128.3	137.8	153.4	178.8	200.0	209.3	220.4
Eating and drinking places	581	102.8	102.2	104.0	103.1	102.5	101.7	98.9	97.6	95.2	93.7
Drug and proprietary stores	591	101.9	102.5	103.6	104.7	103.6	104.8	104.5	105.2	107.5	113.8
Liquor stores	592	98.2	101.1	105.2	105.9	108.4	100.1	98.1	102.0	110.3	107.8
Used merchandise stores	593	105.3	104.9	100.3	98.6	110.4	110.4	111.6	111.6	121.6	122.1
Miscellaneous shopping goods stores	594	100.7	104.2	104.2	105.0	102.7	106.2	111.5	117.2	119.5	124.5
Nonstore retailers	596	105.6	110.8	108.8	109.3	122.1	121.8	130.6	125.7	138.3	148.0
Fuel dealers	598	95.6	92.0	84.4	85.3	84.4	92.2	99.7	112.3	113.3	106.5
Retail stores, n.e.c.	599	105.9	103.1	113.7	103.2	111.6	115.5	121.3	120.5	130.6	137.8
Finance and services											
Commercial banks	602	102.8	104.8	107.7	110.1	111.0	118.9	122.3	127.6	130.9	134.1
Hotels and motels	701	97.6	95.0	96.1	99.1	107.8	106.2	109.6	110.1	109.7	107.9
Laundry, cleaning, and garment services	721	97.2	99.7	101.8	99.2	98.3	98.9	104.0	105.5	108.7	108.1
Photographic studios, portrait	722	100.1	94.9	96.6	92.8	97.7	105.9	117.4	129.3	126.4	135.4
Beauty shops	723	95.1	99.6	96.8	94.8	99.6	95.7	99.8	103.5	106.3	108.9
Barber shops	724	108.8	111.6	100.2	94.1	112.1	120.8	117.7	114.6	127.6	153.4
Funeral services and crematories	726	102.5	97.9	90.9	89.5	103.2	98.2	103.8	99.7	97.1	101.3
Automotive repair shops	753	105.7	108.1	106.9	98.7	103.3	104.0	112.3	119.5	114.1	115.8
Motion picture theaters	783	107.1	114.3	115.8	116.0	110.8	109.8	106.5	101.4	100.4	100.8

[1] Refers to output per full-time equivalent employee year on fiscal basis.

[2] Refers to output per employee.

n.e.c. = not elsewhere classified.

NOTE: Dash indicates data not available.

43. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1997				1998		
	1997	1998	I	II	III	IV	I	II	III
United States	4.9	4.5	5.2	5.0	4.9	4.7	4.6	4.4	4.5
Canada	9.2	8.3	9.6	9.4	9.0	8.9	8.6	8.4	8.3
Australia	8.6	8.0	8.7	8.7	8.6	8.3	8.1	8.1	8.2
Japan	3.4	4.1	3.3	3.4	3.4	3.5	3.7	4.2	4.3
France	12.4	11.8	12.4	12.5	12.5	12.3	12.0	11.8	11.7
Germany	7.8	7.5	7.7	7.8	7.8	7.8	7.7	7.6	7.4
Italy[1]	12.3	12.3	12.3	12.3	12.2	12.3	12.2	12.3	12.4
Sweden	10.1	8.4	10.9	10.6	9.7	9.1	8.7	8.6	8.4
United Kingdom	7.0	6.3	7.4	7.2	6.9	6.6	6.4	6.2	6.3

[1] Quarterly rates are for the first month of the quarter.

– Data not available.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indic unemployment under U.S. concepts than the annual figures. See on the data" for information on breaks in series. For further qualif and historical data, see *Comparative Labor Force Statistics, 10 Cc* (Bureau of Labor Statistics, August 1996).

44. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Civilian labor force										
United States[1]	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673
Canada	14,151	14,329	14,408	14,482	14,663	14,832	14,928	15,145	15,354	15,632
Australia	8,228	8,444	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347
Japan	61,920	63,050	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,230
France	24,170	24,300	24,490	24,570	24,660	24,760	24,810	25,080	25,150	25,260
Germany	28,840	29,410	29,760	30,030	29,960	29,850	29,640	29,500	29,410	29,350
Italy	22,530	22,670	22,940	22,910	22,760	22,640	22,700	22,820	22,850	23,000
Netherlands	6,430	6,640	6,750	6,950	7,090	7,190	7,270	7,370	7,520	–
Sweden	4,552	4,597	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402
United Kingdom	28,580	28,730	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,750
Participation rate[2]										
United States[1]	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1
Canada	67.5	67.3	66.7	65.9	65.5	65.3	64.8	64.9	64.8	65.1
Australia	64.0	64.6	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4
Japan	62.2	62.6	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8
France	56.1	56.0	56.0	55.8	55.6	55.5	55.2	55.4	55.2	–
Germany	55.2	55.3	55.4	55.1	54.3	53.7	53.0	52.5	52.2	–
Italy	47.3	47.2	47.7	47.5	48.1	47.5	47.5	47.7	47.7	47.8
Netherlands	54.7	56.1	56.5	57.8	58.5	59.0	59.3	59.7	60.5	–
Sweden	67.3	67.4	67.0	65.7	64.5	63.7	64.1	64.0	63.4	63.1
United Kingdom	64.0	64.1	63.7	63.1	62.8	62.5	62.7	62.7	62.8	–
Employed										
United States[1]	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463
Canada	13,086	13,165	12,916	12,842	13,015	13,292	13,506	13,676	13,941	14,326
Australia	7,720	7,859	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597
Japan	60,500	61,710	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,400
France	21,850	22,100	22,140	22,010	21,750	21,710	21,890	21,950	22,020	22,290
Germany	27,200	27,950	28,480	28,660	28,240	27,910	27,700	27,380	27,120	27,150
Italy	20,770	21,080	21,360	21,230	20,430	20,080	19,980	20,060	20,050	20,170
Netherlands	5,980	6,230	6,350	6,560	6,620	6,670	6,760	6,900	7,130	–
Sweden	4,480	4,513	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034
United Kingdom	26,510	26,740	26,090	25,530	25,340	25,550	26,000	26,280	26,740	26,930
Employment-population ratio[3]										
United States[1]	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1
Canada	62.4	61.9	59.8	58.4	58.2	58.5	58.6	58.6	58.9	59.7
Australia	60.1	60.1	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2
Japan	60.8	61.3	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2
France	50.7	50.9	50.6	50.0	49.1	48.7	48.7	48.5	48.3	–
Germany	52.0	52.6	53.0	52.6	51.1	50.2	49.6	48.7	48.1	–
Italy	43.6	43.9	44.5	44.0	43.1	42.1	41.8	41.9	41.8	41.9
Netherlands	50.9	52.6	53.2	54.5	54.7	54.7	55.1	55.9	57.4	–
Sweden	66.2	66.1	64.9	62.0	58.5	57.6	58.3	57.6	57.0	57.8
United Kingdom	59.3	59.6	58.0	56.7	56.2	56.5	57.2	57.6	58.3	–
Unemployed										
United States[1]	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210
Canada	1,065	1,164	1,492	1,640	1,649	1,541	1,422	1,469	1,414	1,305
Australia	508	585	814	925	939	856	766	783	791	750
Japan	1,420	1,340	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790
France	2,320	2,200	2,350	2,560	2,910	3,050	2,920	3,130	3,130	2,970
Germany	1,640	1,460	1,280	1,370	1,720	1,940	1,940	2,120	2,290	2,200
Italy	1,760	1,590	1,580	1,680	2,330	2,560	2,720	2,760	2,800	2,840
Netherlands	450	410	400	390	470	520	510	470	390	–
Sweden	72	84	144	255	415	426	404	440	445	368
United Kingdom	2,070	1,990	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820
Unemployment rate										
United States[1]	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5
Canada	7.5	8.1	10.4	11.3	11.2	10.4	9.5	9.7	9.2	8.3
Australia	6.2	6.9	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0
Japan	2.3	2.1	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1
France	9.6	9.1	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.8
Germany	5.7	5.0	4.3	4.6	5.7	6.5	6.5	7.2	7.8	7.5
Italy	7.8	7.0	6.9	7.3	10.2	11.3	12.0	12.1	12.3	12.3
Netherlands	7.0	6.2	5.9	5.6	6.6	7.2	7.0	6.4	5.2	–
Sweden	1.6	1.8	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4
United Kingdom	7.2	6.9	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Labor force as a percent of the working-age population.

[3] Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for the United States, France, Italy, the Netherlands, and Sweden. Dash indicates data not available.

45. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1973	1980	1987	1988	1989	1990	1991	1993	1994	1995	1996	1997
Output per hour														
United States	–	–	–	71.9	94.4	98.0	97.1	97.8	98.3	102.1	108.3	114.9	117.3	122.3
Canada	40.7	59.2	69.6	75.2	91.1	91.0	92.4	95.2	95.0	103.3	105.7	108.4	106.6	109.6
Japan	14.0	38.0	48.1	63.9	81.2	84.8	89.5	95.4	99.4	100.5	101.8	109.3	111.9	117.4
Belgium	17.9	32.7	42.7	64.5	88.9	92.0	96.9	96.9	99.1	104.1	110.0	108.9	110.0	116.7
Denmark	29.9	52.7	66.9	90.3	90.6	94.1	99.6	99.1	99.6	104.5	–	–	–	–
France	23.0	45.5	53.9	70.5	86.7	92.7	97.4	99.1	98.7	101.8	110.4	114.3	117.9	125.9
Germany	29.2	52.1	61.1	77.3	88.4	91.6	94.5	99.0	101.9	100.6	107.9	111.2	115.1	121.8
Italy	19.6	36.8	43.9	64.0	85.0	86.6	89.4	92.8	95.3	104.5	107.4	113.9	114.4	117.4
Netherlands	19.5	38.6	48.8	69.8	91.7	93.8	97.2	98.6	99.6	101.9	114.2	119.9	124.4	130.2
Norway	36.7	57.8	67.6	76.7	93.3	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.6	103.2
Sweden	27.6	52.8	62.1	74.0	90.1	90.8	93.8	95.0	95.0	106.7	116.1	122.4	125.4	133.6
United Kingdom	30.2	43.3	51.4	54.4	78.1	82.6	86.2	89.2	93.9	105.6	109.2	107.4	106.1	106.6
Output														
United States	–	–	–	77.3	97.9	104.5	104.0	102.5	98.7	103.5	112.2	119.6	121.6	128.8
Canada	34.2	60.5	76.8	85.4	103.2	109.3	110.8	106.6	98.8	105.9	112.7	118.3	119.5	126.8
Japan	10.7	38.8	50.0	59.9	78.4	84.6	90.2	96.3	101.4	96.0	95.4	100.6	103.2	107.3
Belgium	30.7	57.6	70.6	78.2	88.8	93.3	99.1	101.0	100.7	97.0	101.4	104.2	104.2	109.0
Denmark	40.8	68.0	79.5	91.3	99.3	100.8	104.3	102.7	101.7	99.0	109.3	115.1	119.0	121.7
France	32.4	66.9	80.1	92.7	91.1	96.3	101.6	103.5	101.7	96.2	101.3	105.3	107.5	112.8
Germany	41.5	70.9	78.5	85.3	88.0	90.9	94.0	99.1	102.8	91.8	93.5	93.7	92.5	95.8
Italy	21.5	44.8	54.1	78.7	88.5	94.8	98.6	100.4	99.7	96.6	101.9	107.5	106.1	108.6
Netherlands	31.9	59.8	68.0	77.8	89.5	92.8	96.9	100.1	100.6	98.2	104.2	107.8	110.6	116.1
Norway	56.5	89.1	102.2	103.6	110.7	105.3	101.3	100.2	98.3	102.7	106.7	109.0	111.4	114.8
Sweden	46.5	81.7	88.5	91.8	107.7	110.2	111.6	110.6	103.6	101.3	115.7	130.1	132.9	140.3
United Kingdom	67.8	90.4	99.7	87.2	94.5	101.5	105.5	105.4	100.1	101.5	106.2	107.8	108.3	109.3
Total hours														
United States	92.1	104.4	110.4	107.5	103.8	106.6	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.3
Canada	84.2	102.2	110.4	113.6	113.2	120.2	120.0	112.0	103.9	102.5	106.6	109.1	112.1	115.8
Japan	76.3	102.3	104.0	93.8	96.6	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.4
Belgium	172.1	176.1	165.5	121.3	99.9	101.4	102.3	104.2	101.6	93.2	92.2	95.6	94.7	93.3
Denmark	136.5	129.0	118.8	101.1	109.6	107.2	104.7	103.7	102.1	94.8	–	–	–	–
France	140.6	147.0	148.7	131.5	105.1	104.0	104.4	104.5	103.0	94.5	91.8	92.0	91.2	89.7
Germany	142.4	136.1	128.4	110.3	99.6	99.2	99.5	100.1	100.9	91.3	86.7	84.3	80.4	78.6
Italy	109.6	121.8	123.4	123.0	104.1	109.5	110.2	108.2	104.6	92.4	94.8	94.4	92.8	92.5
Netherlands	163.3	155.1	139.3	111.4	97.6	98.9	99.7	101.6	101.0	96.4	91.3	90.0	88.9	89.2
Norway	154.0	154.3	151.2	135.0	118.6	114.3	107.1	103.7	100.8	102.1	105.2	106.9	108.6	111.3
Sweden	168.3	154.7	142.5	124.0	119.5	121.4	119.0	116.4	109.0	94.9	99.6	106.3	106.0	105.0
United Kingdom	224.6	208.8	194.1	160.5	121.0	122.8	122.4	118.1	106.6	96.1	97.3	100.4	102.0	102.5
Compensation per hour														
United States	14.9	23.8	28.7	55.8	80.9	84.2	86.9	91.0	95.8	102.9	105.8	108.3	110.7	115.3
Canada	10.4	17.8	22.0	47.7	75.3	77.9	82.5	89.5	94.7	99.8	100.4	103.7	106.0	108.8
Japan	4.3	16.5	26.8	58.6	77.9	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.5	114.0
Belgium	5.6	14.1	21.7	52.7	79.3	81.0	85.2	89.9	95.5	104.9	108.4	111.6	114.1	116.5
Denmark	4.6	13.3	20.5	49.6	80.1	82.9	87.7	92.7	95.9	104.6	–	–	–	–
France	4.3	10.5	14.9	41.3	79.7	82.7	87.2	91.8	96.3	103.6	106.2	107.7	109.4	112.6
Germany	8.2	20.8	29.1	53.9	76.6	79.6	83.4	89.4	95.1	105.9	111.7	117.7	123.7	126.6
Italy	1.6	4.6	7.0	27.9	66.1	68.7	75.5	84.0	93.1	107.1	106.6	112.3	119.4	125.2
Netherlands	6.4	20.3	31.8	64.7	87.8	87.7	88.5	90.8	95.2	103.7	108.2	110.6	113.9	117.0
Norway	4.7	11.8	17.0	39.0	78.5	83.3	87.2	92.3	97.5	101.5	104.4	109.2	114.4	119.6
Sweden	4.1	10.8	15.2	37.4	67.3	71.7	79.4	87.6	95.4	98.0	101.1	106.2	113.4	118.3
United Kingdom	3.1	6.3	9.5	33.1	64.7	68.9	73.6	82.2	92.1	105.9	109.2	110.9	112.2	116.8
Unit labor costs: National currency basis														
United States	–	–	–	77.6	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.3	94.3	94.3
Canada	25.6	30.0	31.6	63.4	82.6	85.6	89.3	94.0	99.7	96.6	95.0	95.7	99.4	99.3
Japan	30.9	43.3	55.7	91.7	96.0	93.4	94.0	95.0	96.5	104.1	104.9	100.1	98.8	97.1
Belgium	31.2	43.2	50.8	81.7	89.3	88.0	87.9	92.7	96.3	100.8	98.6	102.5	103.7	99.8
Denmark	15.4	25.2	30.6	55.0	88.4	88.2	88.1	93.6	96.3	100.1	93.0	93.4	92.3	95.3
France	18.7	23.0	27.6	58.6	92.0	89.3	89.5	92.6	97.6	101.8	96.2	94.2	92.8	89.4
Germany	28.0	39.9	47.6	69.6	86.7	86.9	88.3	90.3	93.3	105.3	103.6	105.9	107.5	103.9
Italy	8.0	12.6	16.0	43.7	77.8	79.4	84.4	90.5	97.7	102.5	99.2	98.6	104.4	106.6
Netherlands	33.0	52.7	65.1	92.7	95.8	93.5	91.1	92.1	95.6	101.8	94.8	92.9	91.5	89.9
Norway	12.9	20.4	25.1	50.8	84.1	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.5	115.9
Sweden	14.9	20.5	24.4	50.6	74.7	79.0	84.7	92.3	100.4	91.8	87.0	86.8	90.4	88.5
United Kingdom	10.1	14.6	18.4	60.9	82.8	83.4	85.5	92.1	98.1	100.3	100.1	103.3	105.8	109.5
Unit labor costs: U.S. dollar basis														
United States	–	–	–	77.6	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.3	94.3	94.3
Canada	31.9	34.8	38.1	65.6	75.3	84.1	91.1	97.3	105.1	90.5	84.0	84.2	88.1	86.7
Japan	10.9	15.3	26.1	51.5	84.2	92.4	86.3	83.1	90.9	118.8	130.1	135.1	115.1	101.7
Belgium	20.1	28.0	42.1	90.0	76.8	76.9	71.7	89.2	90.6	93.7	94.8	111.8	107.6	89.6
Denmark	13.5	20.3	30.7	58.9	77.9	79.0	72.6	91.3	90.8	93.2	88.3	100.7	96.1	87.0
France	20.2	22.0	32.9	73.5	81.0	79.3	74.3	90.0	91.5	95.1	91.8	100.0	96.1	81.1
Germany	10.5	17.1	28.1	59.9	75.3	77.2	73.3	87.3	87.8	99.4	99.8	115.5	111.6	93.5
Italy	15.9	24.7	34.0	62.9	73.9	75.1	75.8	93.0	97.0	80.3	75.8	74.6	83.4	77.1
Netherlands	15.4	25.6	41.2	82.1	83.1	83.1	75.5	88.9	89.8	96.3	91.6	101.2	95.4	81.0
Norway	11.3	17.8	27.2	63.9	77.5	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.3	101.6
Sweden	16.8	23.0	32.7	69.6	68.5	75.0	76.4	90.8	96.6	68.6	65.7	70.8	78.5	67.5
United Kingdom	16.1	19.7	25.5	80.1	76.9	84.1	79.3	93.0	98.2	85.3	86.8	92.3	93.4	101.5

– Data not available.

46. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]
PRIVATE SECTOR[5]												
Total cases	7.9	8.3	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1
Lost workday cases	3.6	3.8	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3
Lost workdays	65.8	69.9	76.1	78.7	84.0	86.5	93.8	–	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	11.2	11.2	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4
Lost workday cases	5.6	5.7	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1
Lost workdays	93.6	94.1	101.8	100.9	112.2	108.3	126.9	–	–	–	–	–
Mining												
Total cases	7.4	8.5	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9
Lost workday cases	4.1	4.9	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7
Lost workdays	125.9	144.0	152.1	137.2	119.5	129.6	204.7	–	–	–	–	–
Construction												
Total cases	15.2	14.7	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5
Lost workday cases	6.9	6.8	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4
Lost workdays	134.5	135.8	142.2	143.3	147.9	148.1	161.9	–	–	–	–	–
General building contractors:												
Total cases	14.9	14.2	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5
Lost workday cases	6.6	6.5	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7
Lost workdays	122.7	134.0	132.2	137.3	137.6	132.0	142.7	–	–	–	–	–
Heavy construction, except building:												
Total cases	14.7	14.5	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7
Lost workday cases	6.3	6.4	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3
Lost workdays	132.9	139.1	162.3	147.1	144.6	160.1	165.8	–	–	–	–	–
Special trades contractors:												
Total cases	15.6	15.0	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0
Lost workday cases	7.2	7.1	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7
Lost workdays	140.4	135.7	141.1	144.9	153.1	151.3	168.3	–	–	–	–	–
Manufacturing												
Total cases	10.6	11.9	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3
Lost workday cases	4.7	5.3	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8
Lost workdays	85.2	95.5	107.4	113.0	120.7	121.5	124.6	–	–	–	–	–
Durable goods:												
Total cases	11.0	12.5	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3
Lost workday cases	4.8	5.4	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1
Lost workdays	87.1	96.8	111.1	116.5	123.3	122.9	126.7	–	–	–	–	–
Lumber and wood products:												
Total cases	18.9	18.9	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5
Lost workday cases	9.7	9.6	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5
Lost workdays	177.2	176.5	189.1	177.5	172.5	172.0	165.8	–	–	–	–	–
Furniture and fixtures:												
Total cases	15.2	15.4	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0
Lost workday cases	6.3	6.7	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8
Lost workdays	103.0	103.6	115.7	–	–	–	128.4	–	–	–	–	–
Stone, clay, and glass products:												
Total cases	13.6	14.9	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8
Lost workday cases	6.5	7.1	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7
Lost workdays	126.0	135.8	141.0	149.8	160.5	156.0	152.2	–	–	–	–	–
Primary metal industries:												
Total cases	13.6	17.0	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0
Lost workday cases	6.1	7.4	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2
Lost workdays	125.5	145.8	161.3	168.3	180.2	169.1	175.5	–	–	–	–	–
Fabricated metal products:												
Total cases	16.0	17.0	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2
Lost workday cases	6.8	7.2	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4
Lost workdays	115.5	121.9	138.8	147.6	155.7	146.6	144.0	–	–	–	–	–
Industrial machinery and equipment:												
Total cases	10.7	11.3	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0
Lost workday cases	4.2	4.4	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1
Lost workdays	72.0	72.7	82.8	86.8	88.9	86.6	87.7	–	–	–	–	–
Electronic and other electrical equipment:												
Total cases	6.4	7.2	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6
Lost workday cases	2.7	3.1	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1
Lost workdays	49.8	55.9	64.6	77.5	79.4	83.0	81.2	–	–	–	–	–
Transportation equipment:												
Total cases	9.6	13.5	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4
Lost workday cases	4.1	5.7	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6
Lost workdays	79.1	105.7	134.2	138.6	153.7	166.1	186.6	–	–	–	–	–
Instruments and related products:												
Total cases	5.3	5.8	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8
Lost workday cases	2.3	2.4	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3
Lost workdays	42.2	43.9	51.5	55.4	57.8	64.4	65.3	–	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	10.2	10.7	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9
Lost workday cases	4.3	4.6	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2
Lost workdays	70.9	81.5	91.0	97.6	113.1	104.0	108.2	–	–	–	–	–

See footnotes at end of table.

46. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]
Nondurable goods:												
Total cases	10.0	11.1	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8
Lost workday cases	4.6	5.1	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4
Lost workdays	82.3	93.5	101.7	107.8	116.9	119.7	121.8	–	–	–	–	–
Food and kindred products:												
Total cases	16.5	17.7	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5
Lost workday cases	8.0	8.6	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0
Lost workdays	137.8	153.7	169.7	174.7	202.6	207.2	211.9	–	–	–	–	–
Tobacco products:												
Total cases	6.7	8.6	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9
Lost workday cases	2.5	2.5	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7
Lost workdays	45.6	46.4	53.0	64.2	62.3	52.0	42.9	–	–	–	–	–
Textile mill products:												
Total cases	7.8	9.0	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7
Lost workday cases	3.1	3.6	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1
Lost workdays	59.3	65.9	78.8	81.4	85.1	88.3	87.1	–	–	–	–	–
Apparel and other textile products:												
Total cases	6.7	7.4	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0
Lost workday cases	2.7	3.1	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1
Lost workdays	49.4	59.5	68.2	80.5	92.1	99.9	104.6	–	–	–	–	–
Paper and allied products:												
Total cases	10.5	12.8	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3
Lost workday cases	4.7	5.8	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7
Lost workdays	99.5	122.3	124.3	132.9	124.8	122.7	125.9	–	–	–	–	–
Printing and publishing:												
Total cases	6.5	6.7	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7
Lost workday cases	2.9	3.1	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7
Lost workdays	50.8	55.1	59.8	63.8	69.8	74.5	74.8	–	–	–	–	–
Chemicals and allied products:												
Total cases	6.3	7.0	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8
Lost workday cases	2.7	3.1	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3
Lost workdays	49.4	58.8	59.0	63.4	61.6	62.4	64.2	–	–	–	–	–
Petroleum and coal products:												
Total cases	7.1	7.3	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3
Lost workday cases	3.2	3.1	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2
Lost workdays	67.5	65.9	68.4	68.1	77.3	68.2	71.2	–	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	14.0	15.9	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9
Lost workday cases	6.6	7.6	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8
Lost workdays	118.2	130.8	142.9	147.2	151.3	150.9	153.3	–	–	–	–	–
Leather and leather products:												
Total cases	10.5	12.4	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6
Lost workday cases	4.8	5.8	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3
Lost workdays	83.4	114.5	128.2	130.4	152.3	140.8	128.5	–	–	–	–	–
Transportation and public utilities												
Total cases	8.2	8.4	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2
Lost workday cases	4.8	4.9	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8
Lost workdays	102.1	108.1	118.6	121.5	134.1	140.0	144.0	–	–	–	–	–
Wholesale and retail trade												
Total cases	7.7	7.7	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7
Lost workday cases	3.3	3.4	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0
Lost workdays	54.0	56.1	60.9	63.5	65.6	72.0	80.1	–	–	–	–	–
Wholesale trade:												
Total cases	7.2	7.4	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5
Lost workday cases	3.6	3.7	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2
Lost workdays	62.5	64.0	69.2	71.9	71.5	79.2	82.4	–	–	–	–	–
Retail trade:												
Total cases	7.8	7.8	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8
Lost workday cases	3.2	3.3	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9
Lost workdays	50.5	52.9	57.6	60.0	63.2	69.1	79.2	–	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2
Lost workday cases	.9	.9	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	0.9
Lost workdays	17.1	14.3	17.2	17.6	27.3	24.1	32.9	–	–	–	–	–
Services												
Total cases	5.3	5.5	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6
Lost workday cases	2.5	2.7	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5
Lost workdays	43.0	45.8	47.7	51.2	56.4	60.0	68.6	–	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;

EH = total hours worked by all employees during the calendar year; and

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

47. Fatal occupational injuries by event or exposure, 1992–97

Event or exposure[1]	Fatalities			
	1992-96	1996[2]	1997	
	Average	Number	Number	Percent
Total	6,331	6,202	6,218	100
Transportation incidents	2,587	2,601	2,599	42
Highway incident	1,287	1,346	1,387	22
Collision between vehicles, mobile equipment	640	667	639	10
Moving in same direction	104	96	103	2
Moving in opposite directions, oncoming	228	220	229	4
Moving in intersection	125	153	142	2
Vehicle struck stationary object or equipment	231	243	280	5
Noncollision incident	343	352	384	6
Jackknifed or overturned—no collision	250	266	295	5
Nonhighway (farm, industrial premises) incident	400	374	377	6
Overturned	213	206	216	3
Aircraft	334	324	261	4
Worker struck by a vehicle	369	353	367	6
Water vehicle incident	106	119	109	2
Railway	78	74	93	1
Assaults and violent acts	1,275	1,165	1,103	18
Homicides	1,032	927	856	14
Shooting	839	761	705	11
Stabbing	78	80	73	1
Other, including bombing	115	86	78	1
Self-inflicted injuries	213	204	212	3
Contact with objects and equipment	998	1,010	1,034	17
Struck by object	568	582	578	9
Struck by falling object	365	403	384	6
Struck by flying object	69	58	53	1
Caught in or compressed by equipment or objects	289	285	320	5
Caught in running equipment or machinery	147	146	189	3
Caught in or crushed in collapsing materials	122	131	118	2
Falls	645	691	715	11
Fall to lower level	562	610	652	10
Fall from ladder	87	97	116	2
Fall from roof	130	149	154	2
Fall from scaffold, staging	79	88	87	1
Fall on same level	56	52	44	1
Exposure to harmful substances or environments	596	533	550	9
Contact with electric current	327	281	297	5
Contact with overhead power lines	128	116	138	2
Contact with temperature extremes	42	33	40	1
Exposure to caustic, noxious, or allergenic substances	121	123	123	2
Inhalation of substances	75	76	59	1
Oxygen deficiency	105	95	87	1
Drowning, submersion	81	70	70	1
Fires and explosions	193	185	196	3
Other events or exposures[3]	37	17	21	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued August 7, 1997, reported a total of 6,112 fatal work injuries for calendar year 1996. Since then, an additional 90 job-related fatalities were identified, bringing the total job-related fatality count for 1996 to 6,202.

[3] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less that 0.5 percent or data that are not available or that do not meet publication criteria.

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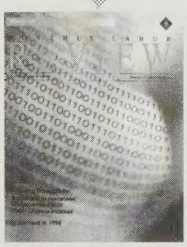

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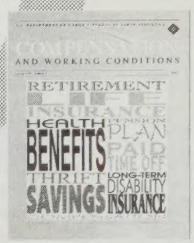

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Productivity and costs			August 5	2nd quarter	September 2	2nd quarter	2; 39–42
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